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DISCUSSION ON CONGRESS PAPERS.

No. 7.—Electro-Therapy in Domesticated Animals.*

The concluding session of Congress for the discussion of papers commenced at 11-30 on the morning of September 15th. The Chair was occupied by Professor J. F. Craig (Dublin) who, at the outset of the proceedings, said: It is understood that after the discussion on the paper Colonel Perry will give a demonstration on the methods he has described, and therefore it is necessary that the discussion should be cut short. On that account it has been decided that the openers shall be allowed ten minutes and those who follow five minutes only.

Mr. F. H. Stainton (London), who opened the discussion, said: In the first place I am sure that I am voicing the feelings of you all when I express our appreciation to Colonel Perry for his very interesting and instructive paper. (Applause.)

Although there is nothing new in the empirical use of electricity, in some form or other, as a therapeutic agent, the studied application of the specific methods before us represents a comparatively new field in veterinary medicine.

In view of the diversity of opinion, and even scepticism, which holds in some quarters, we must count ourselves privileged in hearing the views and experience of one who has given so much time and thought to the subject.

Much of the existing conservatism may be partly due to prejudice, arising from the fact that these methods have fallen into the hands of the unqualified and incompetent, who use them to exploit a gullible public. The essayist has quoted the instance of the hairdresser, who plays with a toy high-frequency set (erroneously termed the "Violet-Ray"), in the fond hope of producing hair on a bald scalp.

One of the causes of disappointment and ill-faith is to be found in the indiscriminate use of the electrical current, without due consideration to the nature and cause of the ailment, with a view to deciding on the best means of application. Paralysis is essentially a case in point. Whereas there are many forms of paralysis in which electricity is an invaluable agent, there are other conditions such as ossifying pachymeningitis, transverse myelitis, progressive muscular atrophy, etc., where little or nothing can be expected from the use of high frequency, Faradism, or any other form of electro-therapy. Although nerves may recover their function and muscles regain their tone, the fact is often overlooked that the central nervous system never regenerates.

In connection with the necessity for proper technique according to the requirements of the case, I can recall one of my own early mistakes. I set out to treat a case of facial paralysis in a polo pony with an ordinary induction shocking coil (the only apparatus to hand at the time). On the first application, the pendulous lower lip sprang into position and remained there so long as the electrode was held over the nerve. This was spectacular and one was filled with optimism. The pony, however, resented the operation so much that on the third application he literally took steps to remove me and my apparatus from the box. I mention this to illustrate two points: first, that this method is unsuitable for our patients on account of the distress and fright occasioned and, secondly, that by the use of a constant, unvarying current I was merely tetanising and asphyxiating an already fatigued muscle and thereby doing more harm than good.

Colonel Perry has defined high frequency and shown in what way it differs from the Faradic current, but I would like to ask if he ever finds occasion for use of the latter in preference to high frequency and, if so, for what conditions. I mean, of course, the Faradic current modified by varying resistance in order to eliminate the unpleasant shocking effects.

In dealing with ionisation, the essayist has given us a list of human complaints which are said to yield to this treatment. I think we should like to hear of some specific cases in which ionisation has proved useful in our own animal patients.

The effects obtainable are dependent upon the introduction into the tissues of the medicinal agent in the ionic form. The obvious limitation to this method is the fact that only the superficial tissues receive the ions in sufficient numbers for therapeutic action. In this connection, one would like to know whether the penetration is such as to warrant its use for the treatment of follicular mange. Another question which has arisen from time to time refers to the practicable uses of the electrical bath for our patients.

Of diathermy one can say little at present, but it would seem to offer possibilities. Heat is so often a potent factor in the combatting of disease that it seems reasonable to look for good results from its controlled application along specific tracts. A rise of temperature constitutes one of nature's first defences against bacterial invasion and I, for one, am opposed to any drastic attempt to lower it—say, for instance, in the early stages of distemper.

In ultra-violet radiation we have not only the most modern but, to my mind, the most important part of the subject and I should like to add my testimony to that of Colonel Perry as to its value in veterinary medicine. I only disagree with him on one point—namely, the choice of lamp. In practice, I have obtained by far the best results with the open cored carbon arc—and, moreover, I should expect to do so on theoretical grounds.

As regards therapeutic application, one important question for discussion is: what will electro-therapy effect which other means will not?

In respect of ultra-violet radiation, the question is already answered in many ways. One may quote its wonderful effect upon certain skin affections, ulcerations

*(Paper by Lt.-Col. E. Middleton Perry, O.B.E., T.D., F.R.C.V.S., Wimbledon).

etc.—its activation of cholesterol and influence upon metabolism—both directly on the subject and indirectly through radiation of foodstuffs. Mention of foodstuffs, metabolism, lactation, etc., brings the subject more in touch with agriculture and breeding ; it would be interesting to hear the experience of any here in connection with the larger animals.

As regards the other forms of electro-therapy, one feels that a more precise indication of their various applications to specific conditions is required. To suggest one simple example—if one can remove a small melanotic growth in one minute by simple surgical means, there seems to be little advantage in spending a week to reach the same end by electro-fulguration. On the other hand, in the case of a small anal adenoma, where mechanical interference is contra-indicated, the fulgurating electrode may be of service.

The X-ray is, of course, of tremendous value in diagnosis, but not always available or easy of access.

Colonel Perry mentions cheerfully the cost of a few seconds' current ; but what about the initial cost of installation ? It is regrettable, but true, that, for many of us, ideals are controlled by £ s. d.

However, no doubt Colonel Perry will supply details of types of apparatus with their respective cost in the demonstration to follow. To give him the most time available I will close these unilluminating remarks of my own.

Mr. Ewing Johnston (Belfast) : I would like to thank Colonel Perry for his most interesting paper. Up to the present I have only tried one form of electro-therapy and that is ultra-violet radiation.

I installed a mercury vapour quartz lamp some five months ago and the results I have got certainly seem to be encouraging. Now, I do *not* pretend to be an expert in ultra-violet ray therapy, nor do I believe that one simply turns the current on and this flow of ultra-violet light will cure all and any disease. I believe ultra-violet therapy, especially in canine practice, to be of great value if used in the proper manner and right cases picked out for use. At present this treatment is more or less in the experimental stage and it is only by papers such as Colonel Perry's and in the discussions that follow, that we shall learn the correct dosage, type of lamp to use, etc.

Therefore, although I am only a beginner and have only been using the ultra-violet lamp for a few months, yet I thought it would only be right to give my views here.

Eczema. It is in cases of eczema that I have found the treatment most useful, especially in the so-called moist eczema. Of course we are told that other methods of treatment, such as ointments, lotions, etc., would heal the condition just the same. I have made several experiments and am firmly convinced that ultra-violet ray treatment heals up the condition more quickly and more permanently than astringent lotions, etc. The dose I usually give is about 10 minutes at 12in.—15in. distance every other day. Generally, 3—4 doses effect a cure. Sometimes one or two doses may suffice. In the dry forms of eczema I have also found the treatment useful. If at all possible, I always shave the hair off the affected part, although in some cases the owner does not consent to this.

Follicular Mange. Here I can only agree with Colonel Perry and say that the results are most disheartening. One case, in particular, which I was anxious to save, if at all possible, may serve as an illustration. The subject was a Kerry Blue bitch which was suffering from the pustular form. The neck, back and tail were the parts affected, and the skin was greatly thickened and covered with pustules. The bitch was shaved all over the body and before each treatment the pustules were squeezed out and the whole skin bathed over with æther and spirit mixture. This bitch got one hour each consecutive day for fifteen days at 20 cms. distance. This caused desquamation of the skin all over the affected area and certainly the skin got more pliable and lost a lot of its thickness. The animal always took the treatment very well, usually going off to sleep after the first five minutes or so. However, the pustules always appeared again and, although the rays certainly improved the condition of the skin and the general health of the animal, they failed to effect a permanent cure. The quick growth of hair was very noticeable in this case.

Rickets.—I have not had the chance to try this yet, but hope to soon.

Chorea.—I have had one successful case with a valuable Alsatian, and undoubtedly it helped the animal, which was a very bad case. He is nearly normal now, except for a slight twitching of the lower jaw.

Indolent Wounds and Ulcers. I find the use of the rays is excellent in these cases and, as Colonel Perry says, one has to see it to believe the great change which takes place and the rapidity with which the condition heals.

X-ray. I was most interested to read that Colonel Perry had installed an X-ray apparatus. Perhaps he would be able to give me the approximate cost of the installation, life, etc. I brought with me two skiagraphs of a racehorse's pastern. This horse was lame for some ten months and had been put in plaster of Paris for weeks without any good result.

Mr. G. P. Male (Reading) : I would like to ask if Colonel Perry has tried electrical treatment in lameness in horses. There are many conditions that one might conceive in which it would be very useful—in racehorses especially.

The Chairman : If no one else wishes to discuss the paper I will ask Colonel Perry to reply and afterwards to demonstrate the use of the instruments which have been brought to the lecture room.

The Reply.

Lieut.-Col. E. Middleton Perry : I must first of all thank Mr. Stainton for so kindly opening the discussion on this paper. When I had the honour of offering a paper to you on this subject, I did so in some fear and trepidation as to what form it should take, and after careful consideration I thought it would be more interesting and profitable if I dealt with the several of the branches of the subject of electro therapy lightly, than if I went into one single subject and dealt with it deeply. My sole object in doing this was to get you interested in the whole subject of the treatment of domestic animals by electro-therapy generally.

One could write a paper much longer than the one I have presented to you on one aspect of this subject alone—ultra-violet, high frequency, ion concentration, etc., but I hope that the paper has given you an insight into electro-therapy. Electro-therapy, of course, is in its infancy

in the treatment of our animals and it is all pioneer work. It is very difficult for anyone to say what can be done and perhaps especially to say what cannot be done: we do not know, at present, how far we can go. I think I was one of the first to attempt the electrical treatment of our domestic animals and I feel, even now, very ignorant on the subject, but I am perfectly certain that it has a great future. (Applause.)

Mr. Stainton has dealt very lightly with me, because I can assure you that he could have picked me to pieces if he had not appreciated my purpose in dealing lightly with the subject.

I want to impress upon you not to look upon electro-therapy as a "cure-all." We must use it with discretion and select our cases carefully: consider each case individually and treat it after careful thought and then I am quite sure you will get good results. Mr. Stainton remarks about the Faradic current in comparison to the high frequency current and asks if I ever find occasion to use the former in preference. I do not think the Faradic current is as useful as high frequency; you can pass the high frequency current through the body of an animal without the faintest sensation, which you cannot do with the Faradic current. For that reason I think that the high frequency current, as I mentioned in my paper, is more suitable for our patients. In regard to the successes I have had in the treatment of paralysis, of course you have got to select your subject. There are many cases I have had in which an animal has been perfectly paralysed from some cause or another and in which I have had complete recovery: I have never had a really negative result.

Ionisation is a method which I have not employed so much as high frequency or ultra-violet irradiation, but I think it has proved its utility in dealing with those small, soft papillomata, which are frequently found in dogs' ears. Treatment is applied by soaking a pad in the solution of zinc sulphate; the secondary pad is applied to the abdomen. The current is slowly turned on and the drug is driven into the soft papilloma. As a rule, after one or perhaps two applications these papillomata, which are very difficult to remove surgically, disappear.

With regard to follicular mange—really, gentlemen, it is the only treatment I know of which I can say that you are going to effect a cure, provided that you have got an isolated spot. I have had one or two cases where the follicular mange parasite has been found in isolated spots; I have treated these by the zinc sulphate ionisation and they have quite healed up and no further outbreak has occurred, but if the affected part is extensive the treatment cannot be applied. Concerning ultra-violet radiation, Mr. Stainton favours the tungsten core lamp. He has probably had more experience with that and it is therefore better in his hands than in mine. I am in favour of the mercury vapour lamp, which I have had for two years and it has never let me down. I think the carbon lamp is the one which is advised at the hospitals, where a large number of patients can be treated together. Where cases are to be treated individually one would use the tungsten or the mercury vapour lamp.

Mr. Stainton also mentioned about small melanotic growths being removed by simple surgical means in one minute, but you can remove it by high frequency in about one second, and there is no need for any instrument or sterilisation. If you have those little growths which are non-pediculated they can be removed by electro-fulguration in a very short time, though for pediculated growths there is nothing like the snare-cautery.

Mr. Ewing Johnston mentions the type of lamp that I have already spoken about—the mercury vapour quartz and he seems to have found the treatment produce much the same results as I have. In regard to eczema, I think it is imperative in all cases to have the dry, scaly tissue removed before each application of the rays.

Concerning X-rays, that, of course, is more or less a specialised subject, although I have brought along a few photographs which show what can be done by amateurs, and it is not so difficult as it appears. At the present day the X-ray apparatus is what I might almost term "fool proof": it is worked on the same principle as is the Kodak camera—"you press the button and we do the rest." The X-ray apparatus of to-day is simplicity itself.

Replying to Mr. Male, I have not tried high frequency in horses, but on the smaller animals I have used it largely, with very good results.

There is one interesting thing I am hoping to try this year with ultra-violet ray and that is the effect on the milk supply by the application of ultra-violet ray to cattle. A farmer client of mine is considering the installation of some means by which a certain batch of cattle can be tried with ultra-violet rays during the winter months. A number of experiments are now being conducted with regard to this treatment and it has been found that in the cows treated by ultra-violet ray their milk contains the same anti-rachitic properties as milk which has been treated by irradiation.

Before going on to the demonstration, I would like to ask you to accord a very hearty vote of thanks to Messrs. Allen and Hanbury, in going to considerable trouble and expense in sending these heavy instruments down here for the sole purpose of giving us these demonstrations to-day. (Applause.) The vote of thanks was accorded with enthusiasm, the CHAIRMAN saying that he could assure Colonel Perry that the demonstration was being anticipated with the keenest interest by all the delegates.

A representative of Messrs. Allen and Hanbury's, Ltd., 48 Wigmore Street, W.1, then proceeded to demonstrate the use of the following electrical apparatus, specially suitable for veterinary purposes, and many present tried the effect on themselves. The instruments were explained generally and seen in working order. Unfortunately, the diathermic instrument was broken in transit and could not be demonstrated.

1. "Thermidion" Diathermy Apparatus, suitable for the treatment of joints, etc., by direct application, surgical diathermy and coagulation. Portable model, embodying several improved features in design, which may be operated from any alternating current main supply.
2. "Alpine Sun" Mercury Vapour Lamp, with Quartz Burner, supplying Ultra-Violet Radiation of high intensity. Suitable for the treatment of skin affections, etc., or to replace natural sunlight.

(*Continued at foot of first column next page.*)

The Agglutination Test and Contagious Abortion in Cattle.

DISCUSSION ON PROFESSOR CRAIG'S PAPER AT V.M.A. OF IRELAND MEETING.

(*Continued from page 983.*)

Mr. J. H. NORRIS: It has been a great pleasure to listen to Professor Craig's address on the important subject of bovine contagious abortion. His paper should be extremely interesting to practitioners and I think it would have been much better to have asked a practitioner to open the discussion. There are still doubtful problems to be solved, and it is only by patient observations and the collection of statistics over a number of years, such as are set forth in this paper, that reliable information may be obtained.

I agree generally with all Professor Craig's statements. Briefly, he suggests that a large measure of success may be achieved by isolating and eventually eliminating the infected animals, and thus establishing abortion-free herds. This is the ideal method, but, unfortunately it is not always practicable. Of course a great deal would depend on the circumstances in each herd. In most herds it might take a period of five or six years to eliminate the disease, and I am afraid it is not acceptable to owners of the ordinary dairy herds.

Another method of dealing with the disease is by vaccination with live vaccines; dead vaccines have been proved of no value in every country where tried. If the disease is prevalent in a herd and there are no facilities for isolation or the owner is not inclined to take the trouble, recourse may be had to vaccination in order to immunise or strengthen the immunity of the animals. I think it is questionable to speak of an immunity to this disease. Certainly there is no such immunity as is seen in, say, measles or scarlatina, but rather a tolerance such as appears to exist in tuberculosis. This view is supported by the experience that animals which have aborted and remain infected show a distinct tolerance, while non-infected, recovered and recovering animals with low titre are liable to abort if exposed to similar infecting influences. More work is required to ascertain the comparative susceptibility of the recovered cow and the maiden heifer.

Experiments and field trials have shown that live vaccines are useful. In assessing the value of vaccination it should, however, be remembered that all animals are not equally susceptible, and that the virulence of the disease varies. The immunity or tolerance is slow in maturing; even a large natural infection may not prevent abortion in some cases. When vaccination fails it may be due to insufficient dose or that the post-vaccination period is not sufficiently long before pregnancy. In recommending the use of vaccines we should be careful to confine their use to badly affected herds, and to not use the live vaccine on pregnant animals. I am aware that the live vaccine has been used in this country and in England on pregnant animals with apparently no ill effects, but experiments which I have carried out, and which will be published in due course, prove that very old strains of Bang's bacillus may cause abortion when given subcutaneously to pregnant cattle. Experience shows that vaccination as generally recommended does not cause abortion, and that all effects of it pass off, as a rule, within a year. Abscesses should never appear if the vaccine is pure, and proper precautions are taken in administration. As to the optimum dose of vaccine, it appears doubtful, from some scanty experimental *data* I have, if there is much difference in the effects of a 50, 100 or 150 cc. dose; a good deal would, of course, depend on the susceptibility of the individual animal.

I agree with all that has been said with regard to the agglutination test, and believe that the correct interpretation of the results is a matter of much importance. When owners receive positive results for animals which are breeding regularly, and negative results for animals which may abort a month or two later, they are apt to regard the test as of little value if the correct interpretation is not explained to them. A point mentioned is that an animal which aborts may sometimes give an entirely negative result at the time of abortion, and I have noticed that the titre of infected animals is inclined to drop prior to calving or aborting, and to rise shortly afterwards. In occasional cases of abortion occurring about the 6th or 7th month repeated blood tests have been negative, and such results indicate that some agent other than Bang's bacillus is responsible. I agree that it is necessary for satisfactory tests to have clear serum, and that blood should be taken under as aseptic conditions as possible.

I do not think that reactors are a danger to other animals so long as they are not discharging from the vagina. It has not been proved that milk is a means of transmitting the disease. Professor Craig's statement that a second abortion may occur at an earlier stage in pregnancy appears to be correct in some cases, but there is also evidence to the contrary. There is little doubt that, generally speaking, sterility is largely associated with abortion, but we have not sufficient experience of breeding conditions in free herds to say to what extent sterility unconnected with abortion may exist.

I thank Professor Craig for providing such a valuable paper.

Mr. J. F. HEALY: I must also thank Professor Craig for his paper, which will be of the greatest value to veterinary surgeons throughout the country who are engaged in dealing with contagious abortion of cattle. From my experience, I consider that the continued use of vaccination is the best way to get rid of the disease from a herd, but the right vaccine must be used. I use the vaccine supplied by Mr. Norris. I have tried a dead vaccine in some cases for pregnant animals but found it to be of no service.

I think vaccination is beneficial in some cases of sterility. In certain herds in which I was compelled to carry out vaccination I noted that sterility occurred after the commencement of vaccination, but with continued vaccination the sterility ceased to exist.

One point, however, on which I do not agree with Professor Craig is with reference to the method of collection of blood-samples. I think that it is as good to take the blood from the ear as from the jugular vein, and also it is easier to collect it from the ear.

With reference to the treatment of affected animals during the period they are showing a discharge I do not think that frequent flushing with disinfectants is advisable, and owners are not in favour of such treatment, since it means more frequent attendance by the practitioner.

Mr. T. R. MULCAHY: I have to thank Professor Craig for his most important paper and his lantern demonstration. I have not much experience of vaccination or of the agglutination test. I have chiefly relied upon thorough disinfection of the byres and cows, destruction of discharges and the isolation of aborting cows. I have vaccinated only a small number of animals and cannot offer a definite opinion as to whether the results of vaccination have been

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(*Continued from previous page*).

3. "Imperial" High Frequency Machine, with vacuum electrodes, suitable for the treatment of nervous affections.
4. Cautery and Light Switchboard, working from the alternating current main, supplying separate circuits for operating the Galvano-Cautery Burner and examination head-light.
5. "Omnistat" Universal Apparatus, earth free, supplying separate circuits for operating Galvanic Current used in Ionisation, Physio-Faradic and Sinusoidal Currents for Nerve Stimulation and Regeneration, Motor power for Vibratory Massage, Galvano-Cautery and Light.

good or bad. I think that if farmers gave greater attention to thorough disinfection and isolation it would go very far to eradicating the disease from their premises.

Mr. P. J. HOWARD: As a member of the profession and the Association I wish, as we all must, to thank Professor Craig for his very able production and for the great trouble he has taken in presenting it to us; but I am sorry to think that his reward has been that only a handful of members consisting of enthusiasts have thought it worth their while to attend the meeting. It is certainly not encouraging to Professor Craig to give information or to carry out pioneer work.

All present, however, have had a treat and have learned a great deal. One thing all have learned is that we are still in a great fog concerning bovine contagious abortion and that there is still a great amount of work to be done in connection with it and that we still have to deal with the eccentricities of the animals and of the disease itself.

Professor Craig states there is no actual or radical cure for the disease, and we have no really reliable facts to go upon. In many cases an animal may show definite reaction this year and no reaction in the next year or the year after that, although no steps in regard to treatment have been taken, and yet in the following year may be the subject of the disease again.

I think it is necessary for members of the profession to give some more advice to farmers. There has been always, up to now, a tendency on the part of owners, and maybe a tendency on the part of some of the profession, to give the advice to sell off affected animals.

Owners should be advised to keep aborting animals. Thus they will not tend to distribute the disease. These animals may be carriers or not. If they would build up self-contained herds that would be the best way to set about getting rid of the disease from their premises.

I thoroughly endorse what Mr. Mulcahy has said and recommend a campaign for thorough cleanliness of everything in connection with the keeping of cattle and particularly of dairy herds.

Mr. T. O'LEARY: Two specially important points brought out in this very valuable paper are that some infected animals never abort and that some animals whose serum does not give a reaction to the test may be affected. I think that sterility must be regarded as being frequently the result of contagious abortion because of the tendency of some aborting cattle to retain the cleansings, so that there is set up a tendency to metritis with sterility as a sequel.

Another very important point brought out was that cattle may rid themselves of the disease without vaccination, and another was that new cattle bought in often bring in the disease.

With regard to dealing with the disease it is very rarely possible, in the case of ordinary dairy herds, for the owner to keep separate herds, and the measures of chief importance in such cases are vaccination and attention to disinfection and hygiene and, where infection of pasture has occurred, it is very important to disinfect the infected portion of it with lime.

Mr. J. H. NORRIS: A point which I might have mentioned is that when animals on pasture are not seen to abort, as in the case of an early abortion, they very often eat the cleansings immediately.

Mr. J. LYNCH: I would like to say a few words with reference to sterility following vaccination. In my opinion, many cows become sterile after vaccination, but only temporarily.

In one herd with which I dealt three out of thirty cows were sterile for the season after vaccination, but on vaccination again in the following year conceived after the first service.

On the other hand, there are often noted cases of sterility which are apparently cured after vaccination.

I would like to ask: Does Professor Craig think it advisable to vaccinate twice in one season when sterility follows the first vaccination, and, if so, what interval should be allowed to elapse between the two vaccinations?

I would also like to learn Professor Craig's views on the cause of sterility following vaccination. I think that the general view of practitioners is that sterility does frequently follow vaccination.

I might refer to an experience which I have had. Last year I vaccinated eleven cows. Three had aborted and I thought I would give them a better chance by giving them, in addition, a week later after vaccination, an intra-uterine injection, using Lugol's solution 1 in 500, but only one went in calf. This is the only instance of a really bad result.

I have only mentioned what I may term irregular results. I get extremely good results all round from vaccination, but I hold the view that at times vaccination is inadvisable; I cannot say when, but I should think if the disease is extremely acute it would be well to delay inoculation.

Mr. J. F. HEALY: Has any member experience of the practice of some owners of keeping a buck-goat in the herd?

Mr. J. S. MCCANN: Yes. I think we have had plenty of experience of that.

Mr. P. F. DOLAN: I have listened to the paper with greatest interest. I think, however, that it would be necessary to read and study it before one would be able to obtain full value from it.

There are several points I would like cleared up. In some measure this disease is scheduled, and one provision of the Contagious Abortion Order is that an owner cannot expose in a market or fair an animal which has aborted within the previous two months. I would like to ask Professor Craig if there is any way in which a cow that is suspected of having aborted can be detected. If one comes across in the market an animal in regard to which suspicion arises that it may have aborted, say, a week previously, can the suspicion be verified?

Another point in connection with contagious abortion which has been introduced in recent years is the question of its possible transmission to human beings. Is bovine contagious abortion transmissible to the human subject or not? We know that in a good many cases human subjects abort, and is there any relationship between abortion in the human subject and in cattle? This point is important, because we know that the bacillus of Bang, when situated in the udder, may be excreted in the milk.

I would also like to hear Professor Craig's views concerning the value of the abortoscope.

It appears to me that for those owners interested in pure-bred herds or valuable dairy herds, or self-contained herds, the important point is to prevent entry of the disease. It is essential in these days, when building up herds of cows giving large milk yields, to prevent abortion entering the herd and Professor Craig has shown that its entry may be prevented through owners raising their own calves or buying in only maiden heifers.

Owners do not always realise their full loss due to contagious abortion. They realise their loss so far as the loss of calves and reduced milk-production are concerned, but not the loss through subsequent poor condition of the cow and cases of sterility, etc.

Professor J. J. O'CONNOR complimented Professor Craig on his paper, and continued: I am not going to analyse what has been stated in the paper, but I am certain that if the advice given by Professor Craig were followed by owners they would find it to be very much to their advantage.

Professor Craig showed how it is possible to obtain a contagious-abortion-free herd and that this is well worth the trouble.

I think that there has been a certain amount of confusion between abortion and sterility. A cow might abort at a very early period and be put down as sterile and if then vaccinated and it becomes pregnant the vaccination might be put down as a cure for sterility.

Or, again, if a cow be served during the period of reaction to the vaccination it might abort and thus appear to be sterile and the vaccination might then be blamed as a cause of sterility.

Abortion may be a cause of sterility due to the fact that abortion may be followed by retention of the fœtal membranes and that this may result in metritis and sterility.

I endorse what Mr. Howard has said concerning the small attendance at a meeting such as this when it was known that a paper of such great importance was to be read and discussed at it. When members do not attend an important meeting such as this it is no wonder that the attendance at others is so poor.

Mr. S. O'DONOVAN: There is only one question I wish to ask. That is in connection with samples of blood from cows which have aborted and which prove negative on testing. I would like to know if such cases are always taken as being due to injury, or are they further investigated? My reason for asking that is that I think that tuberculosis of the uterus must be a cause of abortion in some cases. On examination of uteri at the abattoir one has been struck by the very great number affected with tuberculosis and, indeed, in some cases so badly affected that one would hardly think that the animal could become pregnant.

Professor Craig, however, will recall a case brought to his notice of an animal which had carried to six months and was slaughtered and the uterus found to be badly affected with tuberculosis. I consider that that animal would probably have aborted if it had not been slaughtered and so allowed to carry longer.

The question I have asked, however, is what are negative reactions of aborting cows taken to indicate?

Mr. W. O'CALLAGHAN: It is most important that information concerning this disease should be disseminated among members of the profession. Cow-testing associations throughout the country are depending very much on the question of prevention or cure of this disease.

I have only a small experience of vaccination. There are, however, a couple of points to which I would like to refer.

Abscess formation occasionally follows vaccination. I have found that when abscess formation did occur, then, in a number of such cases, the vaccination failed and abortion followed.

Then, as to the period allowed after vaccination before the animal is put to the bull. It is advisable that that period be long, and a certain period is laid down. What I would like to know is if that period, or perhaps a little longer, were always insisted on after abortion and without any vaccination, what would be the effect? Would the tendency to retain the calf to full term be increased? I mean to suggest that perhaps much of the credit that is attributed to the vaccine is actually due to the fact that the period referred to is always insisted upon when vaccination is applied.

Then with regard to disinfection, I might ask what is its effect in any case of abortion? Natural infection is known to produce some degree of immunity, and I would suggest that this immunity may only commence to develop after abortion has taken place; that is to say, during the period of resolution in the uterus after pregnancy, and possibly retention of the fœtal membranes is an extra effort of nature to effect immunisation. Therefore, if infection be allowed to develop a stronger natural immunity should follow, while strong disinfection and removal of the fœtal membranes by getting rid of infection should tend to interfere with the development of this immunity. Disinfection may have this effect, even in cases of abortion not accompanied by retention of the membranes.

I have had one case of special interest. I was called in to vaccinate one herd late in the season. The owner would not wait to have all of the animals done and I could only vaccinate one-half of them. Of those not vaccinated 90 per cent. aborted and among those vaccinated none aborted.

Mr. J. M. MURPHY: I am anxious to know if the Contagious Abortion Order is of any value, or a dead letter? Also, can the disease be transmitted to the human subject by the milk of carrier cows and what can be done in the way of detecting the bacilli in the milk?

I think sterility often follows abortion, because a cow aborting usually retains the fœtal membranes and thus there is a tendency for metritis and sterility to be associated with contagious abortion.

The PRESIDENT (Mr. J. S. McCann): I have listened with the greatest interest and appreciation to the paper which Professor Craig has read to us. In that paper he has, I think, dealt with everything of importance in connection with the disease. He has given us a synopsis of the facts relating to it and to that has added his own numerous observations. We should be proud to have him as a member of the Association and Principal of the College, and grateful to have such a great authority on the disease to give us this paper to-night. We may leave out of account those who are absent. Professor Craig, like others, does not look for appreciation or reward. His work is his hobby as well as his livelihood. It is depressing to see such a small number of members present when hundreds of notices have been sent out. We here, however, are all reaping the benefit of being present, and the absentees are the losers, for only by talking together at times can we get knowledge of the best ways of getting things done. Those absent lose the information and this is bad for the profession in general. Personally, I have learned a great deal.

As a practitioner I cannot add to the scientific side of the subject. We must see, however, that the important source of trouble in contagious abortion is the "carrier" cow. That is the cow we need to watch. In my part of the country abortion is often introduced into herds by carriers brought into them.

In dealing with the disease, eradication of it would certainly be ideal, but few owners are willing nowadays to spend the time and money necessary to carry this out.

Owners are not desirous of seeing the practitioner visiting their premises often. There is, for example, difficulty experienced even in obtaining a second sample of animals' blood in cases which have been reported on as having given a doubtful reaction to the test. The owners often seem to think that they have been good enough in allowing one to take the first sample and are not willing to pay a fee for collecting the second. It is very difficult to convince owners that the bull is not of importance in spreading the disease, and in nearly all cases, even nowadays, he is blamed by them even though wrongly.

I have used the vaccine and in my experience of its use I have had a great measure of success. At first when using it and when I was not sufficiently careful in respect of sterilisation of apparatus for injection of it I had one or two cases of abscess formation following the inoculation, but these were not due to the vaccine.

I would like to know if any member here has had experience of the use of dead vaccine to be used for pregnant animals.

Mr. J. F. HEALY: I have tried a dead vaccine for pregnant animals in a few cases but its use was followed by abortion.

THE REPLY.

Professor CRAIG: The object of my reading this paper was to allow the practitioners in Ireland to discuss fully the question of abortion disease of cattle, so that any of them who have not taken special interest in the subject up to the present may become acquainted with the modern views concerning the vagaries of the disease.

If some practitioners are not conversant with all modern work relative to the various diseases with which they have to deal the profession will be blamed for their ignorance, and I think the time opportune for all practitioners to make themselves as conversant as possible with recent views concerning Bang's disease.

Acquaintance with present-day knowledge is the only way of survival for the profession. If agriculturists conclude that we are not experts in all questions concerning animal diseases they are not likely to consult us very often. These were the reasons which led me to propose to read this paper.

I know that when one is dealing with very seriously infected herds the way to eradication is a very thorny path,

but something can be done at the outset to reduce the losses arising through the disease and in the course of time something more drastic can be done to eradicate the disease from the herd altogether.

There were certain points which I specially wished to impress on practitioners, and these are the following:—

1. The agglutination test is very reliable for the detection of abortion-disease.

2. The carrier problem has come to be regarded as the crucial question in eradication.

3. Maiden heifers and young bulls, even out of infected herds, are in the vast majority of cases free from abortion-disease and therefore can be bought in with safety.

These are the main features I wished to impress upon you.

In opening the discussion, Mr. Norris has made some very valuable observations and suggestions, and it is not necessary for me to do more than touch upon a few of the points which he raised.

With regard to the experience mentioned in connection with the agglutination test, it does occasionally happen that an infected animal does not react at the time of abortion, but that is only very occasional. It is, however, not contended that the test is infallable. It has some shortcomings like the tests used in other affections. The tuberculin test, for example, may fail to give a reaction in recently affected animals or in advanced cases of tuberculosis.

With reference to the question as to what information may be given by the test with regard to immunity, I consider that it must be taken that the height of the reaction gives no indication of the degree of immunity possessed by the animal. I think that the immunity, when conferred, is unassociated with the quantity of agglutinin in the blood. We have often noted in infected herds cows which continued to give no reaction to the agglutination test and, although continuously exposed to infection, breeding regularly. One can only explain this by taking it that these animals have a certain degree of immunity to contagious abortion.

I think that one cannot compare the immunity in contagious abortion with that in tuberculosis. In this connection I might point out that all that is claimed for the Bacillus-Calmette-Guerin vaccine is that it gives a high degree of tolerance to tuberculosis and that this depends on the persistence in the animal of the organisms in the vaccine and the tolerance disappears when the organisms disappear. Therefore, one cannot compare the tolerance in this case with the immunity in contagious abortion. I might take as an illustration the animal Aughnachree, the history of which I showed you on one of the lantern slides. That animal never aborted. She calved and from the uterine discharge the organisms of contagious abortion were isolated. That animal then reacted to the test. It ceased to react about a year later. Even after that period it was retained among a section of the reactors because it was tuberculous. It never again reacted in respect of contagious abortion and its subsequent breeding history was good. That, to my mind, indicates that that animal had gained a certain amount of immunity after recovery from infection.

The point has been raised as to how one can regulate the dose of the vaccine. At present a certain dose has been decided upon, but it is very difficult to regulate the dose since there is no evidence to establish definitely what is the best dose for all animals.

I always recommend, even in herds in which vaccination is adopted, that all aborters or calves be isolated until the discharge has ceased, so that all infective material may be properly disposed of, and for the reason that the vaccine can never be expected to produce absolute immunity. The immunity is a relative one and can only be expected to withstand infection with small doses of infective material.

One should never neglect measures of isolation and disinfection and attention to hygiene, even where vaccination is carried out.

If vaccination be followed by abscess formation there is very little doubt that this is due in most instances to want of attention to the usual precautions in injecting the vaccine.

I have already stated my views as to the relation between sterility and abortion disease, and still consider that sterility should be dealt with as a subject apart from abortion, even when occurring in outbreaks.

With reference to the points raised by Mr. Healy as to the method of collection of blood samples, I can only repeat what I have already stated, and that is that samples from cases collected from the ear are often black and decomposing, whereas most samples collected from the jugular vein are in a good state of preservation.

Fortunately, however, a moderate amount of decomposition of the blood does not interfere with the reaction to the test. At the same time, in order to give the test the best chance of yielding reliable results the blood must be taken with all proper attention to aseptic precautions.

With regard to Mr. Mulcahy's remarks, I have nothing to say save to endorse his views concerning the importance of measures of isolation and disinfection and attention to hygiene.

As to the points raised by Mr. Howard, I did not quite clearly understand them. He informed the meeting that I have stated that a cow may abort this year, cease to react the next year, and become affected again in the following year. I did not say so. I stated that cows which have recovered have been found to breed regularly afterwards.

As regards the keeping of aborting cows, one must take it that the individual stockowner must look after his own interests. It is in his own interest to get rid of reactors, and these should be got rid of to the butcher. That is not always a practicable scheme because of the large amount of money which would be lost if the number of reactors was large; but if reactors are kept one must always expect to retain the disease on the premises. The keeping of aborting animals was a recommendation made in the old days, when it was supposed that a large number of the cows recovered in a short time after abortion, but it has now been clearly demonstrated that recovery only occasionally occurs and not within a few weeks, but only after a year or two, or several years.

I have little to say with reference to Mr. O'Leary's points. Retention of the fœtal membranes is often associated with sterility, but in many cases sterility occurs unassociated with any history of retention of the membranes.

Mr. Lynch has asked, Is it advisable to vaccinate only once, or twice in the same season? I think that no doubt when one has vaccinated once one has done as much as can be done to immunise an animal during the succeeding pregnancy.

As to his query concerning the causes of sterility, I can only say that the night is not young enough to discuss this subject. I consider that we should look at the problems of sterility and abortion from two separate standpoints and deal with them accordingly.

Mr. Dolan raised some important points. He referred to the fact that under the Contagious Abortion Order it is laid down that an owner shall not expose an infected animal for sale in a fair or market for two months after abortion. I do not know that the Order is of very much value. It was put into operation because of pressure exercised by stock owners on the Ministry of Agriculture to do something to control the disease. It is only of value in that it is an attempt to ensure that an animal shall not be brought indiscriminately from one place to another while discharging infectious material, but there is great difficulty in detecting breaches of the Order. I do not know how one can detect that an animal has aborted a week previously unless through information supplied by attendants or by anyone who knows of the occurrence. One can detect by the blood-test that an animal is infected, but that is the only information one can gain. I do not think that the Order is likely to operate to any great extent.

With regard to the question of the possibility of transmission of infection to the human subject, it is certain that the organism is very similar in many respects to the *Micrococcus melitensis*, which is the cause of undulant fever in man. It has been claimed that in at least some cases of undulant fever in man these may have been due to the milk of cows infected with contagious abortion. The

actual clinical evidence is against the view that any disease in man is commonly caused by the *Bacillus abortus Bang.*

It has been suggested that certain strains of the *Bacillus abortus* may set up undulant fever in man, but there is no evidence of abortion in women being in any way related to abortion disease of cattle.

Undulant fever is not found in this country, and the inference is that the bacillus of abortion is not responsible in this country for any disease in man, although it must be taken that a lot of infected milk is drunk.

I have no personal experience of the use of the abortoscope. Defects one sees in the apparatus, however, are that one is not quite sure of the amount of blood taken in the wire hoop supplied, and, secondly, that there is no positive control. I do not think that this form of the agglutination test will come to replace the more accurate form of the test as carried out in the laboratory.

Mr. Dolan referred to the importance of weeding out the disease from herds being formed and preventing its subsequent introduction, and emphasised the importance of owners raising their own calves or only buying in maiden heifers and young bulls.

There are certain herds which cannot be maintained in this way, as in the case of an owner who owns a herd in the neighbourhood of the city and has very little accommodation. He must supply a definite quantity of milk daily and has to buy in new cows in full milk. At present it is difficult to make arrangements to buy animals subject to the test, but it may come to be that in the future a man may be easily able to do so.

In certain countries the purchase of animals subject to having passed the test is coming to be recognised. For instance, in the case of animals intended for exportation to the Argentine it is laid down that the animals must be not only free from tuberculosis but also must not have reacted to the agglutination test for contagious abortion.

I have no comment to make on what Professor O'Connor has said, but must thank him for his appreciation of the paper.

Mr. O'Donovan raised a very pertinent question. He asked whether if, after abortion, a negative reaction to the test was obtained, it was at once concluded that the abortion was due to an accident. To that I must reply that such a conclusion is never arrived at. One only concludes that the abortion was not due to Bang's bacillus. On the other hand, one has in certain cases received a history of injury to the animal and yet the existence of contagious abortion has been shown by the test.

Abortion may be due to organisms other than Bang's bacillus. In one case which I remember the appearance of the discharge suggested infection with Bang's bacillus, but the animal gave no reaction to the agglutination test, and I thought then of tuberculosis and examined the discharge and found it teeming with tubercle bacilli. Cases of that kind may occasionally occur. On the other hand, one must remember that abortion due to tuberculosis is not likely to occur in many cases in succession in one herd.

Mr. O'Callaghan also raised some points. Not infrequently, abortion has followed when only a short interval has been allowed to occur after vaccination before service. That is a reason why it is recommended to allow a period of two or, better, three months after vaccination before putting the animal to service.

I wish, however, to compliment him on recording the case he did in which the value of vaccination was definitely shown. Surely an experience such as that is one of the evidences on which the value of vaccination is based, and surely one could not have evidence of greater value.

Mr. Murphy raised some questions to which I have already referred.

Our President's remarks were very sensible and showed him to be conversant with the practical aspect of the whole question and what we are up against in recommending practical measures against this disease.

That is all I have to say except to thank you again for the reception you have given the paper and the interesting and valuable discussion that has followed.

CLINICAL NOTES.

Ascaridia perspicillum (Rudolphi, 1803) in a Fowl's Egg.

By A. W. Noel Pillers.

In August last, Mr. W. Scott, F.R.C.V.S., of Bridgwater, forwarded me a nematode, which was taken out of a fowl's egg on a breakfast plate by a medical friend of his. It measured 9.5 cms. in length and although considerably damaged, the structure of the anterior extremity could be sufficiently made out to place it in the family Ascaridæ. On comparing it with a cleared female of the above species, I think it may safely be said that they were identical. *Ascaridia perspicillum* is a common parasite of the intestine of fowls in this country, and has an extensive synonymy. It is often referred to as *Heterakis inflexa* Zeder. Railliet (1) says: "Lastly, a large number of observers, since Aldrovande and Fabrice d'Acquapendente, have reported its presence in the egg of the fowl, where they introduce themselves by going up into the oviduct before the formation of the shell." Theobald (2) gives the following account of parasites in the egg: "Occasionally parasitic worms are found in the oviduct of fowls, and, as we shall see later, a few vegetable parasites also make their appearance. These 'guests' found in the oviduct are quite accidental and not unusually they manage to enter the ovum. They are purely of interest only and are of no pathological importance. A fluke (*Distoma ovatum*), a nematode (*Heterakis inflexa*) and fragments of tapeworm (*Cestoda*) have been recorded in fowl's eggs."

Whilst I have no desire to add to the mysteries of the interior of the egg, the occurrence is, in my experience, so rare as to make it worthy of this short note.

1. Railliet, A., "Traite de Zoologie Medicale et Agricole," Paris, 1895, p. 406.
2. Theobald, F. V., "The Parasitic Diseases of Poultry," London, 1896, p. 70.

Occurrence of Asthma in the Equine Species.*

By Lieut.-Col. R. C. Musser.

The question of the occurrence of asthma among equines is occasionally the subject of discussion among veterinarians, but in the writer's experience these discussions have been infrequent and rather vague, and the occurrence of cases which apparently might properly be diagnosed as asthma have been rare.

Some authorities on veterinary practice have recorded their observations of this ailment, but it would seem that the occurrence of this condition, where definite organic changes have apparently not taken place, is relatively uncommon.

Several years ago while the writer was on duty in the Philippine Islands two cases of respiratory ailment in horses were observed which from their simulation of that condition in the human being seemed to warrant a diagnosis of asthma. Both cases were cavalry mounts about

*Reprinted from *U.S. Army Vet. Bull.*, volume XX, 4.

ten years of age, of average conformation, and without sick record of note.

The first case was brought to the clinic about ten o'clock in the morning with a negative history, except that the stable sergeant had noticed the animal on the picket line breathing in a laboured manner. When examined the animal was in acute distress, with a marked dyspnœa and frequent attacks of coughing. Inspiratory action was associated with a pronounced whistling and roaring, and a moderate cyanosis of the visible mucosa was apparent. The case was diagnosed as asthma by the process of elimination, there being insufficient evidence to warrant a diagnosis of choke, pneumonia, pulmonary emphysema, etc. This case was treated with moderate doses of atropine administered subcutaneously. Improvement was gradual, and in twenty-four hours the animal was apparently normal. No cardiac or digestive derangements were noted in connection with this case, and no subsequent respiratory ailment was apparent during the several months that observation was possible.

The second case observed occurred a few weeks after the first and was brought to the hospital about ten o'clock at night. The history was also negative and the clinical picture was similar to that of the first case. The treatment consisted of one dose of H.M.C. (Abbott), subcutaneously, with the very pleasing result that within thirty minutes the animal was apparently in normal condition. No complications were noted at any time and no recurrence of respiratory ailment occurred during the following several months that this animal was under observation.

REVIEW.

[The Atlas of the Ox: Its Anatomy and Physiology. By T. G. Browne, M.R.C.V.S., Professor of Anatomy at the Royal Veterinary College, Ireland. Illustrated by Georges Dupuy, M.D. Published by Baillière, Tindall & Cox.].

In adding this atlas to the series already published by Messrs. Baillière, Tindall & Cox, the author has rendered good service. He has endeavoured to supply the needs of the professional, the pseudo-professional, and the layman, and a survey of the atlas shows how well he has succeeded. It embraces such subjects as anatomy, physiology, obstetrics, pathology, and meat, inspection and within its necessarily limited compass it tells us all the salient facts in each branch. Being compiled by a teacher of anatomy the reader can rely on its accuracy.

The illustrations need no other recommendation than to say that they are by Georges Dupuy.

The atlas is one that can be recommended to the student, the professional man, or to anyone interested in animal husbandry.

Medical and Veterinary Congress in Morocco.

A congress to be known as Journées Médicales et Vétérinaires Marocaines will be held next Easter (April 3rd to 8th) at Casablanca and Rabat. Among those who will take part are Prof. Leriche, Prof. Calmette, Dr. Ramon, Prof. Lardennois, Prof. Cruchet, and Prof. Vallee. Particulars may be had from Dr. Lepinay, rue de Marseille, Casablanca.

REPORTS.

Veterinary Inspection in Cumberland.

We have received a copy of the Quarterly Report of the Chief Veterinary Inspector of the Cumberland County Council which, whilst it offers much useful information to the lay readers to whom it is addressed, is also of interest to the veterinary profession.

So large an agricultural county as Cumberland may congratulate itself on the very small amount of contagious disease which has existed in the past quarter. There has been no outbreak of foot-and-mouth disease, only one case of anthrax, one of swine fever and one of scab. As there is a sheep population of over three-quarters of a million, this latter must be regarded as very satisfactory.

Of parasitic mange there has been no outbreak; this, with the present incidence of this disease throughout the country as compared with that of the immediate post-war period, is a remarkable tribute to the wisdom of the Ministry of Agriculture in introducing the Parasitic Mange Order.

That 75 per cent. of the fifty-nine animals slaughtered on account of tuberculosis were "advanced" cases within the meaning of the Tuberculosis Order, cannot be regarded as satisfactory. Tuberculous cattle must be reported and dealt with at an earlier stage of the disease if the good effects expected from the Tuberculosis Order are to materialise.

This Report contains no reference to the work done under the Milk and Dairies Order, but a separate report is promised which is awaited with interest.

Administrative Control of Tuberculosis in Cattle.

In the course of his Annual Report for the year 1926, Dr. Alex. G. R. Foulerton, County Medical Officer of Health for East Sussex, says:—

The following figures show the number of cattle inspected under the Milk and Dairies (Consolidation) Act, 1915, during the period 1st September, 1925, to the 30th April, 1927:—

Notifications received from Sanitary Authorities.	No. of farms inspected.	No. of cows examined.	No. of cows in which milk tested.	Result of Test.		
				Positive.	Negative.	Incomplete.
1st September, 1925, to 31st December, 1925:—						
London County Council (4) ...	5	176	5	1	4	—
1st January to 31st December, 1926:—						
County Borough of Brighton (12) ...	13	419	46	8	33	5
County Borough of Croydon (1) ...	1	27	3	—	3	—
Borough of Hove (1)	1	34	6	1	5	—
1st January to 30th April, 1927:—						
London County Council (1) ...	1	19	3	—	3	
Borough of Hove (2nd visit)	1	5	5	—	5	—
Totals (19)	22	680	68	10	53	5

It will be seen that during the full period, nineteen notifications were received, twenty-two farms visited,

and 680 cows examined by the Veterinary Inspectors. Samples of milk were drawn off from sixty-eight of these cows, and subjected to bacteriological examination, including inoculation tests. Excluding five cases in which the result of the bacteriological examination was incomplete ten cows out of sixty-three proved to be infected. The ten infected cows were then notified under the Tuberculosis Orders to the police and slaughtered.

Whilst the number of tuberculous cows identified by procedure under the Act was ten only, the number of tuberculous cattle notified under the Orders to the police by the farmers has been considerable. Altogether 809 cows, including the ten found by procedure under the Act, were notified to the police and slaughtered.

	Slaughtered.	Found to be tuberculous.	With lesions of the udder.
1st September to 31st Dec., 1926	216	214	—
1st January to 31st Dec., 1926 ...	479	470	110
1st January to 30th April, 1927 ...	114	111	26
Totals	809	795	136

The number of milk cows in the Administrative County is estimated as being 32,000. It will be seen, therefore, that, during the period of twenty months, 795 of the most heavily infected have been slaughtered, representing a rate of 2·5 per cent. The cows slaughtered under the Orders represent the more advanced cases of tuberculous infection, such as can be recognised by the farmer himself; and these emaciated cattle represented are those which are most likely to yield milk containing tubercle bacilli. It cannot be doubted that the elimination of these more heavily infected cows represents a distinct gain to the Public Health, and that this is so is indicated by results of the bacteriological exmaination of samples, taken from the retailer, of milk produced within the County area.

The Medical Officers of the London County Council, the County Boroughs of Brighton, Croydon and Hastings, the Borough of Hove and the Urban District of Portslade-by-Sea Sanitary Authorities have taken samples of milk, and have been so good as to supply me with the following details as to samples taken within their areas:—

	No. of samples taken.	Free from tubercle bacilli.	Containing tubercle bac.	Test incomplete.
LONDON COUNTY COUNCIL.				
1st September to 31st Dec., 1925	52	44	5	3
1st January to 31st Dec., 1926...	—	—	—	—
1st January to 30th April, 1927	15	12	1	2
COUNTY BOROUGH OF CROYDON.				
1st September to 31st Dec., 1925	27	27	—	—
1st January to 31st Dec., 1926...	41	39	2	—
1st January to 30th April, 1927	9	9	—	—
COUNTY BOROUGH OF BRIGHTON				
1st September to 31st Dec., 1925	3	3	—	—
1st January to 31st Dec., 1926...	93	81	12	—
1st January to 30th April, 1927	—	—	—	—
COUNTY BOROUGH OF HASTINGS				
1st September to 31st Dec., 1925	4	4	—	—
1st January to 31st Dec., 1926...	—	—	—	—
1st January to 30th April, 1927	—	—	—	—
BOROUGH OF HOVE.				
1st September to 31st Dec., 1925	—	—	—	—
1st January to 31st Dec., 1926...	18	16	1	1
1st January to 30th April, 1927	27	25	—	2
URBAN DISTRICT OF PORTSLADE-BY-SEA.				
1st September to 31st Dec., 1925	—	—	—	—
1st January to 31st Dec., 1926...	—	—	—	—
1st January to 30th April, 1927	4	4	0	—
Totals	293	264	21	8

It will be seen that the tests were incomplete, or inconclusive, with eight of the 293 samples examined during the period of twenty months. Of the remaining 285 samples, twenty-one were proved by inoculation tests to contain active tubercle bacilli, representing a percentage of 7·3. The number of samples examined so far is not sufficient, however, to enable one to formulate any conclusions as to the condition generally of milk produced within the area of the Administrative County. The apparently rather high percentage of infected milks, amongst the relatively small number examined, is probably a matter of accident because of the small number. The results of the examination of considerable numbers of samples in my Laboratory at University College have shown that in the past the proportion of infected milks has been a little under 4 per cent.

The considerable number of heavily-infected cows which have been slaughtered already under the Tuberculosis Orders, in the County area, has been given; and there cannot be any doubt that the effect of the elimination of the more heavily-infected tuberculous cows from the milk herds will be manifested, in the near future, by a reduction in the number of samples of infected milk taken by "outside" Sanitary Authorities. In the first twenty months during which the Tuberculosis Orders were in operation, no fewer than 795 cows (representing 2·5 per cent. of the entire dairy stock in the Administrative County) were slaughtered. Of these, 785 were notified, under the Tuberculosis Orders, to the police by the owners, either because the cow was seriously emaciated, or because it showed other obvious signs of disease, suggestive of tuberculosis—in other words, because the cow was in such an advanced condition of tuberculous infection as would render its milk seriously dangerous. The remaining ten cows were also notified under the Tuberculosis Orders to the police, but only after the owner had been informed as to the presence of tubercle bacilli in the milk, discovered as the result of inspections made under the Milk and Dairies (Consolidation) Act, 1915. In none of these ten cows was the tuberculous disease sufficiently advanced to enable the Veterinary Inspector to condemn the cow outright, and without an inoculation test. Altogether, the milk from sixty-four "suspected" cows, many of which were apparently in excellent general condition, was selected for the special test, and the milk of ten of them contained active bacilli.

As a matter of interest, attention may be called to some figures given above. During the first four months' working of the Tuberculosis Orders the Veterinary Inspectors were not asked to report specially on the condition of the udder in slaughtered cows. From 1st January, 1926, onwards, the Inspectors have reported specially on the condition of the udder in every case and, in the result, it was found that amongst 581 tuberculous cows which were slaughtered between the 1st January, 1926, and the 30th April, 1927, there were 136 which showed, in addition to evidence of tuberculous infection elsewhere, definite signs of tuberculosis of the milk-producing gland itself. In addition to milk-cows which have been slaughtered under the provisions of the Tuberculosis Orders, a small number of cows have been slaughtered, sometimes rather informally, and their carcases disposed of by their owners, without reference to the Orders.

The effect of the operations of the Act and Orders for the control of tuberculosis in cattle may be summed up as follows. A comparatively large number of cows with advanced tuberculosis have been slaughtered during the twenty months under consideration. There cannot be any question but that this has been an immense gain to the health of the milk-consuming public. On the other hand, this slaughter of milk cows has entailed but little financial loss to the farmer, inasmuch as the market value of the cow emaciated by tuberculosis is but small—the only profit to be made out of her is by using her milk for as long as possible, and to the serious detriment of the public. From this point of view it cannot be other than a cause of satisfaction that so many cows with advanced tuberculosis have been destroyed. One has next to con-

sider the other class of cow—the cow which is apparently in good general condition, but which is, nevertheless, yielding tuberculous milk. It is quite certain that such a cow, without having any detectable tuberculous disease of the udder itself, may produce a milk containing tubercle bacilli in considerable and dangerous numbers. I believe that it is entirely to the interest of the farmer himself that such cows should be detected as early as possible. There is an opinion current at the present time, which probably is justified, that whilst the milk of such a cow cannot be used for human consumption, the meat, if the disease is (as it often is) localised and if certain precautions are taken under veterinary supervision, may be allowed for use as butcher's meat. And so it would appear to be to the financial advantage of the farmer, if arrangements are made under the Milk and Dairies (Consolidation) Act, 1915, for the early detection of the disease amongst his milk cows. If the infection is detected at an early stage, the cow can be dried off, and fattened for the market. If the disease is not detected early, the disease progresses to the stage of emaciation, when the carcase is worthless; and meanwhile the diseased cow has been spreading infection amongst the herd. There cannot be any question as to the advantage to the public health of thorough veterinary inspection of herds under the Act of 1915; I feel certain also that, except for the small preliminary loss entailed in the elimination from his herd of almost worthless cows with advanced disease, a thorough system of routine inspection, in order to detect tuberculosis in incipient stages and whilst the cow has still a good market value, must be to the ultimate financial advantage of the farmer.

Cats and Mice, and Beef.

"One of the major problems of stock owners in this and other countries is the control of parasitic infections, and one of the most important groups of these diseases is that family which infests the lungs. In most cases the life-history is unknown, but a recent article in the *Journal of Helminthology** on an analogous condition in domestic cats may assist in the solution of this problem. Cats in various parts of Britain suffer from a parasitic pneumonia caused by a minute species of roundworm. This worm lives in the parenchymatous tissue of the lungs, and there lays innumerable eggs, which hatch *in situ*. The larvæ which emerge are swallowed, and pass to the exterior in the droppings; there they die, unless swallowed by mice which feed on this material. Once swallowed, they migrate to the connective tissue and, encysting, wait until the mouse is eaten by the cat, when the cycle is completed. A somewhat similar state of affairs is found in the case of the common cat tapeworm, and laboratory workers throughout the world are familiar with the elongated cyst of that form in the mouse's liver. Biological control obviously depends on preventing the cat from eating mice—for once in a way rodents and hygiene conspire together to bell the cat. But if cats are not permitted to catch mice their chief function in life, at least in many humble homes, has disappeared. If they carry out their duties they suffer from a severe and often fatal pneumonia or from tapeworms. What, then, is to be done with our cats? Sir Arthur Keith's recent masterly survey at the Leeds meeting of the British Association, of modern conceptions of evolution, recalls Charles Darwin's story of cats and clover. It had been found that red clover will seed only when the plants are cross-fertilised by visits from bumble-bees. (The clover crops in New Zealand were failures until bumble-bees were introduced to fertilise them.) The nests of the bees, however, are raided by field voles, which greedily feed on the larvæ they find there. Accordingly, the more field voles the fewer the bees, and consequently the poorer the next crop of red clover. But near villages cats kill (but do not eat) field voles; and so it follows that the greater the number of cats the

(Continued at foot of next column.)

* T. W. M. Cameron: *Journal of Helminthology*, 1927, vol. v, pp. 55-66.

Special Meetings of Council R.C.V.S.

Immediately following the Quarterly Meeting of Council R.C.V.S. (a report of which appeared in last week's issue of the *Record*), a Special Meeting of Council was held. Lieut.-Colonel J. W. Brittlebank, C.M.G., occupied the Chair, and the same members were present as at the quarterly meeting.

The minutes of the last Special Meeting of Council, which had been printed and circulated, were taken as read and confirmed.

Alterations and Additions to Bye-laws.

Bye-law 110.—The President formally moved: "That Bye-law 110 be amended by the addition of the following words after the word 'Examiners' in line 6: 'of whom one shall act with the teacher for the examination in Veterinary Hygiene and Toxicology, and the other shall act with the teacher for the examination in Meat Inspection, Milk and Dairy Inspection.'"

Dr. Bradley seconded the motion, which was carried unanimously.

Bye-law 110.—The President formally moved: "That Bye-law 113 be altered to read as follows: 'In each of the two groups, two papers shall be set, one on each section, each paper consisting of eight questions of which six must be answered. Three hours shall be allowed for each paper.'"

Dr. Bradley seconded the motion, which was carried unanimously.

Bye-law 115 (*a*).—The President formally moved:—"That Bye-law 115 (*a*) be altered by the omission of the first paragraph and by the insertion after the word 'Examinations' in the second paragraph of the words 'in each subject.'"

Dr. Bradley seconded the motion, which was carried unanimously.

It was resolved that the Confirmatory Meeting should be held on Tuesday, 18th October, at 4 p.m.

On the motion of Mr. McKinna, a hearty vote of thanks was accorded to the President for his conduct in the Chair, which the President briefly acknowledged, and the meeting terminated.

. . . . . .

A Special Meeting of Council was held at the College, 10 Red Lion Square, London, W.C.1, on Tuesday, October 18th, 1927.

Present.—Lt.-Colonel J. W. Brittlebank (President), in the Chair, Mr. J. H. Carter, Professors J. F. Craig, F. T. G. Hobday, Messrs. W. S. King, G. H. Livesey

(Continued from previous column.)

fewer the voles, the more bumble-bees, the better the clover crop, the richer the pasture, and the greater the production of beef. Our dinners, then, depend to some extent on the number of cats present. This might suggest an alternative occupation for an animal which obviously is suffering from two distinct industrial diseases; and perhaps in future its most important function in a man-controlled world should not be to assist in the accumulation of wealth of Lord Mayors of London Town (that could be relegated in part to the more prosaic mousetrap), but in helping to maintain the traditional quality of the roast beef of England."—*British Medical Journal.*

G. H. Locke, Professor J. Share-Jones, Lt.-Colonel P. J. Simpson, Messrs. S. H. Slocock, T. F. Spencer, E. Alfred West, and Professor G. H. Wooldridge.

1. *Minutes.*—The minutes of the previous special meeting were read and signed as correct.

2. *Apologies for Absence.*—Letters of apology for absence were received from Major J. Abson, Dr. O. Charnock Bradley, Messrs. A. Gofton, J. Holroyd, R. Hughes, J. W. McIntosh, Sir J. M'Fadyean, Mr. Male, Major-General Sir J. Moore, Dr. A. W. Whitehouse and Col. Dunlop Young.

3. *Bye-laws.*—The following alterations to bye-laws having been duly passed at the previous special meeting were confirmed, and the Seal of the College was ordered to be attached thereto :—

Bye-law 110.—That Bye-law 110 be amended by the addition of the following words after the word "Examiners in line 6 : "of whom one shall act with the teacher for the examination in Veterinary Hygiene and Toxicology, and the other shall act with the teacher for the examination in Meat Inspection, Milk and Dairy Inspection."

Bye-law 113.—That Bye-law 113 be altered to read as follows : "In each of the two groups, two papers shall be set, one on each section, each paper consisting of eight questions, of which six must be answered. Three hours shall be allowed for each paper."

Bye-law 115 (*a*).—That Bye-law 115 (*a*) be altered by the omission of the first paragraph and by the insertion after the word "Examination" in the second paragraph of the words "in each subject."

. . . . . .

After the above meeting an informal meeting of the Dinner Committee and other members of Council was held to discuss arrangements for the proposed Dinner to the Colonial representatives. It was, however, found that the date available was so close at hand that it would be impossible to make satisfactory arrangements in time, and with much regret the Committee came to the conclusion that the proposed Dinner must be abandoned.

Victoria Veterinary Benevolent Fund.

A meeting of Council was held at 10 Red Lion Square, on Tuesday, October 18th, when the following members were present :—Lieut.-Col. J. W. Brittlebank, President (in the chair), Mr. G. H. Locke, Lieut.-Col. P. J. Simpson, Mr. S. H. Slocock, Captain S. Villar, Mr. E. Alfred West and Professor G. H. Wooldridge.

Apologies for absence were received from Messrs. W. Barons Nelder, A. Gofton, W. Jackson Young, H. P. Standley, Major-Gen. Sir John Moore, Messrs. A. M. Munro, J. Ewing Johnston and F. Leeds Gooch.

The minutes of the previous meeting, having been printed and circulated, were taken as read and signed as correct.

SECRETARY'S REPORT. The Secretary reported that since the previous Quarterly Meeting the following donations had been received :—

	£	s.	d.
Bolton's Cinema (final)	8	8	0
Wm. Littlewood	2	0	0
Central V.S. (Collecting Box) ...	1	10	11
Mrs. Walker (per C. Roberts) ...	3	3	0
A. Spicer	35	0	0
J. A. W. Dollar	1	1	0
Major C. W. Townsend (Life membership)	10	10	0

It was resolved that the thanks of the Council be conveyed to the donors and that a special letter of thanks be addressed to Mr. Arnold Spicer in appreciation of his very generous donation.

Cases.—No. 24. Widow, aged 76. Suffering from cataract ; received 12s. 6d. weekly, *plus* £3 monthly from N.V.B.M.D. Fund. Special application for grant towards expense of moving and doctor's bills.

A grant of £3 was made in this case.

No. 65. M.R.C.V.S., aged 54. Married ; separated from wife and family ; wife receives 15s. weekly from fund for her three young children. Applicant has no means. Pleads ill health. Sells matches.

It was resolved that, in view of the assistance given to the wife of this member, no grant be made to him.

No. 68. Widow of member. Re-married. No income. Ill-health of both self and husband. Grant made 1924, £18. Special grant also made by N.V.B.M.D. Fund.

A grant of £2 per month was made for six months, commencing December, 1927.

No. 90. Widow, aged 26, two children. Receives 15s. weekly. Now working as clerk at £1 per week.

It was decided to continue the grant of 15s. a week for the present quarter.

No. 91. Daughter of member, aged 48. Receives 40 rupees a month from G.F.P.F., Calcutta. Further application.

No further grant was made.

No. 103. Daughter of member, aged 57. Nurse companion. at present ill in nursing home. Income £10. Grant of 10s. weekly.

It was resolved that the grant be discontinued, but that the Executive Committee be authorised to make a grant not exceeding £3 to cover incidental expenses during the present quarter.

No. 105. Widow, aged 45, four children. Grants made £10. It was reported that two of the children were now in a boarding school.

A grant of £1 a week was made for the present quarter.

No. 106. Widow, aged 45, two sons. Application for assistance towards education.

The President reported that the N.V.B.M.D. Society was considering this case, and the matter was referred to the Executive Committee to act in co-operation with that Society.

No. 109. Widow, aged 39. Three children, one earning £1 a week. Husband died insolvent.

A grant of £1 a week was made for the present quarter.

Dr. F. A. E. Crew, of Edinburgh, Dr. Marshall, and Dr. Walton, of Cambridge, and Mr. W. C. Miller, of Edinburgh Veterinary College have left for Algiers to investigate Dr. Voronoff's gland experiments on sheep which, it is claimed, have increased the size of the animals and their wool production.

DIVISIONAL REPORTS.

Central Division.

Annual General Meeting.

The Annual General Meeting of the Central Division N.V.M.A., was held at 10 Red Lion Square, London, on the evening of Thursday, October 13th, with Major G. W. Dunkin in the Chair, prior to the induction of the in-coming President, Captain W. K. Townson. There were also present, Mr. H. Bell, Captain J. Bell, Messrs. W. Brown, H. D. Jones, H. C. P. King, Herbert King, Major H. Kirk, Mr. G. H. Livesey, Captain G. Dunlop Martin, Professor J. McCunn, Mr. J. W. McIntosh, Major W. S. Mulvey, Messrs. H. J. Parkin, W. Perryman, Professor A. R. Smythe, Messrs. J. Stephens, W. Norman Thompson, Captain R. J. Stow, Messrs. E. L. Stroud, and J. Willett and Captain J. F. Macdonald (Hon. Secretary).

Mons. J. Mabilais (Santiago) was warmly welcomed as a visitor to the meeting by the Chairman, who introduced him as the accredited veterinary representative of the Chilean government. Mons. Mabilais, said Major Dunkin, was continuing in England to visit veterinary schools and research centres, after which he was going to the Pasteur Institute for six months, where he would continue his well-known studies into foot-and-mouth disease.

Mons. Mabilais, who was enthusiastically received, before leaving returned warmest thanks for his invitation and reception which, he said, would remain a happy memory with him long after his visit to this country had terminated.

The minutes of the last Annual General Meeting and of a Special Meeting, which had been published in the *Record*, were approved and signed, after the making of two alterations.

Correspondence.

(1) The receipt of letters of apology for non-attendance was announced from Major C. Davenport, Professor F. T. G. Hobday, Major Graham Rees-Mogg, Major-General Sir John Moore, Captain S. J. Motton, Major S. F. G. Pallin, Mr. H. L. Roberts, Sir John Bland Sutton and Major R. F. Wall.

The Secretary read Major Davenport's letter, which was as follows:—

Merrywind,
Salisbury Road,
Farnborough, Hants.
9/10/27.

My Dear MacDonald,—I have to let you know that I am off to India this month for five years and that therefore I shall have to discontinue my attendance at meetings of the "Central" for the present. Also I shall no longer be able to serve you on the Council.

I want to thank you very much, indeed, for all your kindness to me during the past three years. You have a very happy way of making newcomers feel very at home in strange surroundings and among utter strangers.

I have enjoyed attending the meetings of the "Central" more than I can say and I look upon my membership of the Society as one of the best jobs of work I have done since I came home. Certainly it has given me a tremendous amount of pleasure and much new in interest in my professional work. Though I have not been too regular in my attendance, nevertheless, I feel I have made a large number of friends among members of the Society.

Will you please pass on my kind regards to the President and members of the Society? Also my very best wishes for the Session 1927-28. I shall think of you when I get East of Suez.

Among the many things I shall look forward to on my return to England, in the distant future, attendance at meetings of the Society and renewing the friendships made there will not be the least.

With very kind regards to yourself and best wishes.—Yours very sincerely, C. Davenport.

The Hon. Secretary informed the meeting, amid applause, that he had replied, sending Major Davenport the best wishes of the Society.

(2) From Mr. Walter Grey, of Ilford, requesting the Society to accept his resignation, as he had removed from the London area and retired from practice.

Mr. Grey's resignation was accepted, with regret.

(3) From the Secretary of the Royal College of Veterinary Surgeons, containing the information that the Council of the College had decided to allow the use of the Council Room for the purpose of meetings of the Society, until such time as the Library, now in course of extension and refurnishing, was completed.

(4) From the Secretary of the Royal Veterinary College, Camden Town, acknowledging the receipt of, and conveying the grateful thanks of the Governors for, the donation of 50 guineas made by the Society towards the Royal Veterinary College Rebuilding Fund.

(5) From the Director of the Veterinary Laboratory of the Ministry of Agriculture and Fisheries, New Haw, Weybridge (addressed to the President) as follows:—

My Dear Dunkin,—I am very pleased, indeed, to learn from the President that the Fellows of the Central Veterinary Society found pleasure and interest in their visit to our institution, and that they went away with the impression that it was a pleasure to us to entertain them. Although, as you say, the entertaining of a number of visitors necessarily interrupts the routine of a laboratory, and requires special preparation, I am quite sure the staff did take a real pleasure in carrying out their duties on this occasion; a pleasure which was increased by the interest shown in everything by the audience.

I, personally, feel strongly that it is most desirable to encourage the closest possible understanding and co-operation between laboratory workers and those engaged in the more practical applications of our work, and I think time and trouble occupied in this way are well spent. I wish also to say that any credit for the arrangements made for your reception is due to my staff, for on account of absence from the laboratory I was unable to play any active part in the preparations, and had merely been able to express a wish that everything possible should be done.

I wish also to add that we look forward to entertaining the Central Society again at some future date, and hope that we shall then have further developments to demonstrate.—Yours very sincerely, W. Horner Andrews.

(6) From the General Secretary of the N.V.M.A., stating:—

"By the direction of the Council of the Association I am to inform you that in its opinion it is very necessary, in view of recent and in preparation for any future legislation affecting their interests, that Veterinary Inspectors throughout the country should be closely organised. To this end, the Council recommends the formation in each of its Divisions of a Veterinary Inspectors' Section, for the purposes of consultation and discussion on all matters pertaining to their province.

Perhaps you would be good enough to bring this letter before the members of your Division at their next meeting."

(7) From Messrs. J. Lyons and Co., requesting to be allowed to reserve a date for undertaking the Annual Dinner of the Society at the Trocadero Restaurant.

(8) From the Assistant Secretary of the British Hay Traders' Association, as follows:—

The British Hay Traders' Association,
30 Corn Exchange Chambers,
London, E.C.3.
June 1st, 1927.

The Secretary,
Central Veterinary Society,
183 Upper Richmond Road,
Putney, W.S.15.

Dear Sir,—Sir Walter Gilbey and the Council of the National Horse Association have arranged to receive Messrs. Mayes, Rawle and McIntosh, the deputation appointed by the Conference of May 17th on Thursday, June 9th.

The Council ask for an intimation of the amount of financial support likely to be forthcoming from the Associations represented at the Conference.

Mr. Rawle mentioned £10 10s. and the B.H.T.A. will probably contribute a similar amount.

I shall be glad to know before June 9th as to any other sums likely to be available, and am especially asking if the Central Veterinary Society will become guarantors and for what sum.—Yours faithfully, BENJ. HOBBIS, *Assistant Secretary*.

(9) From the Secretary of the National Horse Association of Great Britain, stating:—

"As a result of the recent Conference called by The British Hay Traders' Association we were invited and agree to inaugurate a campaign to encourage the use of horses for commercial transport.

"The Conference decided as a preliminary step to issue Display Cards and Poster Stamps and I venture to enclose copies of same.

"I shall, therefore, be glad to know if you will co-operate in the display of these cards by issuing a certain number to your members inviting their exhibition; and if so, how many cards may be sent.

"Further, it was decided to *issue gratis* to each subscribing Association, 1,000 *stamps* of each variety. I shall be glad to know if I may send you this quantity and if your members require a further supply they can be obtained on specially favoured terms.

"Your Association—I am given to understand—is contributing from its funds towards this campaign, and I shall esteem it a favour if I may be favoured with your donation."

Considerable discussion took place upon a recommendation made by the Council of the Division concerning the above, the discussion concluding with a motion for reference back, which was carried *nem. con.*

The PRESIDENT: There is one other item of correspondence remaining to be dealt with, namely, the letter from the General Secretary of the "National," concerning the institution, by the Division, of a Veterinary Inspectors' Section. Will you express your opinions about that, please: we have some veterinary inspectors here.

Captain W. K. TOWNSON: I think it highly desirable that a Veterinary Inspectors' Section should be established and that the inspectors, especially those in the outlying districts, should meet. I feel that we are on very unsafe ground, for there is no great unity amongst us, and if we do not meet for the purpose of discussing those vexed questions that are from time to time arising there will be no part-time inspectors left to discuss them.

Major W. S. MULVEY: I entirely agree with what Captain Townson has said. Orders are changing almost every day and there is the troublesome question of fees, which are different in every county, and ought to be brought into line. The only way in which we can effect any uniformity is by discussing the question.

Mr. J. WILLETT: Have we any knowledge whether there are enough members of this Division who are inspectors to make a special section?

The HON. SECRETARY: I think there are sufficient.

Captain W. K. TOWNSON: Would it be possible for the Secretary to call a meeting of the members of this Society who are veterinary inspectors for the purpose of discussing the question fully? You would then see how many inspectors we had and whether it was worth while continuing.

The HON. SECRETARY: I could issue, on the December agenda, a notice of meeting to be held before the general meeting; otherwise it would mean circularising the whole Society specially. Probably a meeting held on the same night as the general meeting would result in a better attendance. I propose that.

Captain TOWNSON seconded the proposition, which was agreed.

In regard to the the letter from the proprietors of the Trocadero Restaurant, the HON. SECRETARY reported that, in view of the fact that the Annual General Meeting did not take place until the second week in October, the Dinner Committee had to deal with this matter in the *interim*, this Committee having been appointed by the Council a fortnight previously. That Committee had arranged to hold the Annual Dinner at the Trocadero Restaurant on the first Thursday in November and had also made provision for a very good concert on that occasion.

The action of the Dinner Committee was approved.

Major KIRK: May I ask, in connection with that donation of fifty guineas towards the Royal Veterinary College Rebuilding Fund, did the Secretary, in notifying the Secretary of the Fund, specify any conditions?

The HON. SECRETARY: In the letter I said that it was the desire of the Council that the Building Fund Committee should ear-mark that donation for the provision of X-ray apparatus.

SECRETARY'S REPORT.

The HON. SECRETARY now presented his Annual Report for the year 1926-27, which was as follows:—

During the session 1926-27 we have held eight general meetings, one annual general meeting, the Annual Dinner and four Council meetings.

There is a pleasing increase in the number of elections, thirteen new Fellows having been added to the list. We have also elected one new Honorary Fellow, Captain S. J. Motton, of Penzance.

The resignations number nine, and there are, unfortunately, two deaths to be recorded.

The average attendance at the general meetings throughout the year has been good, in spite of the fact that the Society was without a regular home for several months. The figures are as follows: Fellows, 35.5; *Visitors*, 13.5. This, as secretaries have pointed out, annually during the past fifty years, is capable of improvement and Fellows are urged to attend as regularly as possible and support their Division.

The Victory Medal for the year was awarded to Mr. James Rowe, the Society's G.O.M.

In addition to the following list of papers read, many *post-mortem* specimens were exhibited and gave rise to considerable discussions. It is hoped to increase the facilities for showing these specimens during the coming session.

ESSAYS READ: (1) Presidential Address; (2) "So-Called Nervous Distemper," Major Leslie P. Pugh, B.Sc., F.R.C.V.S.; (3) "Tuberculin Tests in Cattle (with special reference to the intradermal test) from the Standpoint of the Practitioner," Captain S. J. Motton, F.R.C.V.S.; (4) "Researches on Foot-and-Mouth Disease," Captain F. C. Minett, M.B.E., B.Sc., M.R.C.V.S.; (5) "Ultra-Violet Radiation in Veterinary Practice," F. H. Stainton, Esq., F.R.C.V.S.; (6) "Some Notes on Treatment of Interest to Clinicians," Captain J. McCunn, M.R.C.V.S., M.R.C.S., L.R.C.P.; (7) "Some Aspects of Veterinary Toxicology," G. W. Clough, Esq., D.Sc. In addition, the Society visited the Ministry of Agriculture Laboratories at New Haw, by invitation of the Director, Dr. W. H. Andrews F.R.C.V.S., D.Sc.

The PRESIDENT: You have heard the report of our Secretary. You will, I am sure, agree that it is a very satisfactory one and I would be glad if someone would propose a vote of thanks to Mr. Macdonald for preparing it.

Mr. G. H. LIVESEY moved, Major H. KIRK seconded, and it was agreed, amidst applause, "That the report be received and adopted and that the Secretary be thanked for its preparation."

The audited Balance Sheet, which had been circulated to the members and which showed an exceedingly satisfactory financial position, was then received and adopted by the meeting.

ELECTION OF OFFICERS.

President.—The CHAIRMAN: The first officer to be elected is the President. That, gentlemen, is my pleasant duty and I may say here and now, and I say it earnestly, that it is with mixed feelings that I propose my successor. It has been usual in the past for the senior Vice-President to be offered the post of President. This year the senior Vice-President is Colonel Young and, in accordance with our usual custom, Colonel Young was offered the post, but unfortunately he could not see his way clear to accept, owing to the fact that he had in view a visit to Australia for eight or nine months on duty for his City Council. Unfortunately for us, that put Colonel Young out of count. We have, therefore, asked the junior Vice-President to occupy the position, and he has very kindly agreed to do so. Captain W. K. Townson, to whom I refer—(applause)—took a good deal of persuading, but he has, after the exercise of a certain amount of pressure from me and several others, accepted. (Applause.) It seems to me that Captain Townson is weighed down with a sense of responsibility or with a feeling that he lacks something requisite for the office—no one knows what it is—(hear, hear)—but it is certainly a fact that he is the proud possessor of the fair quality of modesty: it is a quality I commend to you all. I have great pleasure, therefore, in proposing that Captain Townson be elected as President for the coming year. (Applause.)

Mr. J. WILLETT seconded and CaptainJ. DUNLOP MARTIN supported the proposition, which was carried with acclamation.

Taking Major Dunkin's place in the Presidential Chair, Captain W. K. TOWNSON said: I should feel very unworthy if I did not say how very grateful I am to you all for electing me as your President this evening. I assure you I appreciate the honour most highly. I need hardly say that I will do my very utmost to preserve and maintain the prestige and dignity of this high office. I thank, you, gentlemen. (Applause.)

Continuing, the PRESIDENT said: I should like to propose a vote of thanks to the retiring President, Major Dunkin. (Applause.) I am sure that we have all found Major Dunkin a most excellent President and I feel that, with his enthusiasm and outstanding personality, Major Dunkin has made history for this Society. (Hear, hear.) He possesses a quality which I envy him, or any man, and that is a wonderful power of oratory. I will only add that I hope, as we all do, that Major Dunkin will continue to grace us with his presence throughout my year of office. (Applause.)

Major G. W. DUNKIN: I am not going to keep you long, but I do want to refer to what I said just now when I proposed the election to the Chair of Captain Townson. I said it was with mixed feelings that I did so, because this year has been to me a delightful experience, for I have always felt at every meeting that I have had the support of everyone in the room and also of those who were not able to be present with us. (Hear, hear.) I assure you that I am very glad to leave the Chair, but I am equally pleased to have handed over to so worthy a successor as Captain Townson. I have to thank you, in return, for the staunch support you have given me during the past year and I know that that support of the holder of the Presidential Chair will be continued in even greater measure during the ensuing twelve months. (Applause.)

Vice-Presidents.—The following were elected: the retiring President, Professor James Macqueen, Major Brayley Reynolds and Lieut.-Col. T. Dunlop Young.

Council (elected by ballot).—Mr. H. D. Jones, Mr. H. C. P. King, Major H. Kirk, Mr. G. H. Livesey, Captain G. Dunlop Martin, Professor J. McCunn, Mr. J. W. McIntosh, Major-General Sir John Moore, Mr. W. Perryman, Lieut.-Colonel P. J. Simpson, Professor A. R. Smythe, and Professor G. H. Wooldridge.

Hon. Treasurer.—The PRESIDENT: I have great pleasure in proposing from the Chair the re-election of our Hon. Treasurer, Mr. Stroud. (Applause.) We have heard the glowing terms in which our Auditor, Mr. Livesey, has spoken of Mr. Stroud, and I am sure that the finances of this Society are safe in the hands of Mr. Stroud. I believe that he has managed our financial affairs for considerably more than a quarter of a century and has given entire satisfaction.

Major DUNKIN seconded the proposition, which was carried with enthusiasm, and Mr. F. L. STROUD, in suitable terms, returned thanks for his re-election.

Hon. Secretary.—The PRESIDENT: It is my very pleasant duty to move, from the Chair, the re-election of Captain Macdonald. (Applause.) I am sure Captain Macdonald is a most worthy Secretary and has spared

neither time nor trouble to make our Society a success. He is a pillar of strength. (Hear, hear.)

The motion was seconded by Mr. J. W. McINTOSH, and carried with acclamation.

In his acknowledgment, Captain J. F. MACDONALD reminded the meeting that the success of a Secretary depended upon the good work done by the rest of the members of a Society. He had only one small grievance to voice and that was the extreme difficulty experienced in getting clinicians to read papers. He thought that perhaps they were becoming too scientific a Society in regard to their papers—they could get numbers of pathologists, bacteriologists, etc. to come and read papers. These were very interesting, but he thought variety was needed. The difficulty was that clinicians would not read papers. Apart from that, his work as Secretary had been a pleasure.

Trustees.—Messrs. S. H. Slocock, E. L. Stroud and J. Willett were re-elected.

Auditors.—Mr. G. H. Livesey (member of Council) and Major P. W. Dayer Smith.

ANY OTHER BUSINESS.

The PRESIDENT: Under the heading of "Any other Business" I have to make two announcements. One is a sad one; it is that of the death since our last meeting of Major A. E. Roberts, of Bayswater. I think we should pass a vote of condolence—I believe the Secretary has already written to the relatives.

The vote was passed, with the members standing in silence.

Continuing, the PRESIDENT said: The next announcement I have to make is a very pleasant one. It has been decided by your Council to present the Victory Medal this year to Professor James Macqueen. (Applause.) I do not think I need say much about Professor Macqueen—we all know that he is one of the most popular members of the profession and he is held in the highest esteem and affection by everyone. (Applause.) I look forward to the privilege and honour of being able to make this presentation; anything further that I may have to say about Professor Macqueen I propose to defer until the presentation takes place.

With reference to the Annual Dinner, I hope that it will be supported by all the members, so that it may be the success that it has been in past years. I want you to remember that the Dinner is a social event and it really is chiefly for the ladies that we hold it; therefore, come yourselves and do not forget to bring your ladies with you. (Applause.)

A hearty vote of thanks to the newly-elected President for his conduct in the Chair brought the meeting to a close.

J. F. MACDONALD,

Hon. Secretary.

Mr. J. D. Williams, M.R.C.V.S., Twickenham, has been appointed veterinary surgeon to the Borough of Twickenham.

North Wales Division.*

PAPER AND DISCUSSION ON "SKIN AFFECTIONS TRANSMISSIBLE FROM ANIMALS TO MAN."

A joint meeting of this Division with the North Wales Branch of the British Medical Association was held at the Queen's Hotel, Chester, on Friday, September 30th. Major J. R. Williams, M.B., J.P. (of Penmaenmawr), President of the North Wales Branch of the B.M.A., occupied the chair, and he was supported by Mr. J. Matthews, M.R.C.V.S. (of Llanfair P.G.), President of the North Wales Division. The following members of the Division signed the attendance book:—Messrs. Cane, Cartwright, Downham, Elam, Professor Gaiger, Messrs. Hughes, T. W. Hughes, W. Mills, Dr. Montgomery, Messrs. Salusbury, Savage, Professor Share-Jones, Messrs. Tweed Wynne, Wynne Williams and H. V. Hughes (Hon. Sec.). Apologies for absence were read from Mr. E. P. Edwards and Major Hobday.

The CHAIRMAN, in opening the meeting, said that he regretted that the attendance of his medical colleagues was not as large as could be desired, for, unfortunately, another meeting of medical interest was being held that afternoon not many miles away, and many members of his association had been obliged to attend there. Nearly forty had written expressing their regret at being unable to attend, and this showed that there was no lack of interest in these joint meetings so far as his profession was concerned. The subject chosen for discussion that afternoon—Skin Affections transmissible from Animals to Man—was of very great interest and importance to them all, and he was very glad to call upon Mr. Mills, of Caersws, to read them his paper on the subject.

Mr. J. E. MILLS: I wish, at the outset, to explain my position here this afternoon. I had originally consented only to open a discussion on a paper to be read by a medical gentleman, and that on condition that I saw the paper beforehand. It was only at the last moment that I was asked to read the paper myself. Under these circumstances I ask my hearers to overlook any shortcomings.

If my humble effort will only produce a good discussion I shall be more than repaid for all my trouble and worry.

First, we all rejoice in the significant fact which this *united* meeting of the Medical and Veterinary Societies emphasises, *viz.*, that at last the barriers that divided us are gradually being broken down, and the bonds of brotherhood and friendship are taking their place. The result is that both professions benefit and we are all enabled more effectively to give practical expression to our aims of ameliorating the pains and adding to the happiness and length of life of our patients. The wonder is that such a long period of time has been allowed to elapse whilst we still walked and worked as separate entities. But, although we are independent in some respects, the fact which we want to realise and carry into a practical issue is that we are also inter-dependent.

When tackling many problems of health and the eradication of diseases—such as tuberculosis—there is no doubt that both professions working hand in hand will achieve greater success, and that more quickly, than if each went its own way.

* Received on October 10th.

You will, I am sure, forgive me for taking up your time to utter truths to your practical belief in which your presence here bears witness, but, gentlemen, I think we cannot state them in public too often. (Applause.)

We have to congratulate the gentleman who chose the subject which we are to discuss in our meeting to-day, *viz.*, "Skin Affections transmissible from Animals to Man." He has been most happy in his wording of it, for, note—it is not Skin *Diseases*, but skin *Affections*. It is an immense subject, of very wide scope, and, in my opinion, it includes a vast territory, bounded on the one side by the lice of cattle—which cause the poor veterinary surgeon to scratch his head mightily when he has just examined an emaciated cow for symptoms of pulmonary disease—and on the other side by the bacillus which is the cause of "wool sorters' disease." It can also include affections which are not primarily skin diseases, such as glanders, tuberculosis and actinomycosis.

It is worthy of note that although it is quite true that "Big fleas have little fleas upon their backs to bite them, and little fleas have lesser fleas—and so *ad infinitum*," a beneficent providence has also made it a broad rule that each species should have its own particular tormentor. To-day we have to discuss the few exceptions—just the opposite to the state of affairs in French grammar, where exceptions, we remember, were more numerous than rules.

The skin is a wonderful membrane—composed of epidermis and corium—and it may help us in this discussion to keep in mind the fact that it is continuous with the mucous membranes, etc., the whole of the organism, be it human or animal, being enclosed therein. One of its chief functions is protection, and any break in its continuity may lead to the death of the organism.

We can approach our subject in various ways:—Vocationally, as when cattle-workers are attacked by ringworm and cowpox; or we may classify the affections according to their cause:—

(*a*) Moulds.
(*b*) Animal parasites.
(*c*) Viruses or micro-organisms.

(*a*) DISEASES DUE TO MOULDS.—*Vegetable Parasites, Ringworms* or *Tinea.*

Ringworms of calves, horses, dogs and hedgehogs are transmissible to man—so also, less frequently, are those of asses, sheep and pigs. Those of horses affected mounted and transport units during the War, whilst those of calves affect their attendants on the thumb and wrist and sometimes on the face and neck. These have been observed in all parts of the world. Those from calves are the only ones I have observed personally. It has been pointed out—by whom, I forget—that a cat may carry the parasite without being itself clinically affected by it and may thus be a "carrier" to anyone petting it.

In the *Veterinary Record*, Eddowes records two cases of the transmission of ringworm from animals to man. In the first case a parlourmaid consulted him one day with ringworm on her cheek. The next day the cowman of the same establishment called to see him. Seeing a ringworm on his wrist the doctor enquired about his associations, and finding that he was employed on the same estate proceeded to tell him all about his complaint and also about the pretty parlourmaid.

In the second case a lady showed ringworm on her chin and the front of the wrist, which proved to be transmitted from a pet hedgehog.

Ringworm of the beard in man arises from a trychrophyton of the horse.

(*b*) DISEASES DUE TO ANIMAL PARASITES.—*Sarcoptes or Mange Mites.* These cause scab in animals and itch in man.

Although these parasites are—as a general rule—restricted to living on their own special hosts, some of them—more particularly those of the horse and camel—affect human beings.

The acarine parasite is just visible to the naked eye. The female lays its eggs in a burrow or tunnel in the epidermis. As these multiply at a very rapid rate the disease is highly contagious. Macdonald (1922) gives an account in the *Veterinary Record* of an outbreak affecting a whole class of veterinary students who had had as a subject for dissection the carcase of a horse which had been destroyed because it was so seriously affected with sarcoptic mange. It was characterised by intense continuous itchiness and a red papular eruption on the ankles, forearms and arms. Rapid cure followed the use of baths, sulphur ointment, and the disinfection of the clothes. This is now a notificable disease under the Acts of the Ministry of Agriculture and Fisheries.

As to the manges of the dog and the cat, my experience agrees with the observations of Kirk, that it is very seldom, if ever, that these are transmitted to man.

(*c*) DISEASES DUE TO INOCULATION BY A VIRUS OR MICRO-ORGANISM. In this group we may include:—

Vaccinia or Cowpox.—This is now rare in this country. It affects the teats and udders and inoculates milkers through abrasions in the skin of the hands. An outbreak was investigated in Somerset by Reese, in 1909, and a full report was given in the *Veterinary Journal* of January, 1922.

Anthrax.—This is due to *Bacillus anthracis.* Owing to its clinical appearance the disease in man is known as malignant pustule. It is generally found in butchers, slaughterers, shepherds and wool-sorters.

Glanders.—Due to *Bacillus mallei*, this disease was frequent thirty to forty years ago, but owing to its having been stamped out of the horse population of Great Britain by the veterinary profession it is now non-existent, thus showing, gentlemen, how essential it is for the welfare of both the human and animal worlds that we should work together for the greatest good of the greatest number.

Tuberculosis verrucosa.—This is caused by Koch's bacillus and is more commonly known as butcher's tubercle or post-mortem wart. It generally affects persons engaged in the *post-mortem* examination, etc. of tuberculous subjects.

Actinomycosis.—Most frequently this disease is seen affecting cattle in the region of the angle of the jaw, but it can affect any of the internal organs of the body. Sometimes it affects the spermatic cord of the castrated equine. Thirty years ago I was called by a medical friend to see an interesting case of supposed tuberculosis of the testicles and scrotum. From the appearance of the pus I suspected actinomycosis. A smear was made and on being put under the microscope it showed the ray fungus. The patient was a cowman and was attending a bull suffering

from actinomycosis. He recovered under pot. iodide treatment.

Foot-and-Mouth Disease—Although rare, cases have been recorded of skin affections due to the transmission of the virus of foot-and-mouth disease to man by accidental inoculation and by the ingestion of the milk from an infected animal.

It seems to me that there lies a wide field for research into the intimate relationship that exists between the skin and the mucous membranes, as to the why and the wherefore of the reactions of affections of the mucosa of the alimentary canal upon the skin, and, *vice versa*, diseases of the skin upsetting the normal functions of the mucous membranes.

Lastly, one might mention a condition from which we veterinary surgeons not infrequently suffer after removing a decomposing placenta from a cow. Here the arms become the seat of widespread erythema with pustule formation later. It is due to inoculation with the septic matter lying within the uterus.

The discussion on Mr. Mills' paper was opened from the medical point of view by Drs. Lewys-Lloyd and Hunt. Dr. Lewys-Lloyd dealt particularly with the parasitic diseases which he encountered as a medical officer for schools, and he pleaded for the segregation of household pets affected with contagious disease of the skin. Dr. Hunt related her experiences as a skin specialist. She dealt very fully with the points raised by Mr. Mills, and her contributions was greatly appreciated. Further interesting discussion ensued and it was only the lateness of the hour which brought it to an end after the following had taken part: Mr. Wynne-Williams, Dr. Paterson, Professor Share-Jones, Drs. Nelis, Anderson, Montgomerie, Professor Gaiger, Messrs. Elam, Matthews and Tweed.

H. V. HUGHES, *Hon. Secretary.*

ADRENALINE AND VASO-DILATATION.

"It has long been known that the injection of very small amounts of adrenaline produces vaso-dilatation, particularly in a denervated limb, but it was believed until recently that the vaso-dilator effects were secondary to the liberation of histamine somewhere in the body, probably in the lung. Dale and Richards have now shown that the injection of a small amount of adrenaline (0.0004 mg.) into the aorta of an anæsthetised cat produces conspicuously larger expansion of a denervated leg than five times the dose of adrenaline injected into the jugular vein. The latent period also is much shorter when the arterial route is employed. These experimental results suggest that the vaso-dilator effects are due to the arrival of the adrenaline itself in the arterial blood of the limb. One argument in favour of the view that the vaso-dilatation is produced by a secondary liberation of histamine in some part of the body has always been the apparent impossibility of demonstrating this effect in a perfused limb. Dale and Richards have now overcome this difficulty, and have shown that when the hind leg of a cat is perfused with fresh, defribinated cat's blood and the volume of the limb recorded, the injection of minute amounts (0.0001 mg. or 0.00005 mg.) of adrenaline into the arterial stream produces definite dilatation followed by constriction. In this case, as the circulation of the perfused leg is no longer in connexion with the general circulation, there can be no question of the effect being brought about by the liberation of histamine in the lung or in any other organ, and it must be concluded that the vaso-dilatation is due more directly to the presence in the arterial stream of the adrenaline itself."—*British Medical Journal.*

R.A.V.C. Old Comrades Association.

SEVENTH ANNUAL RE-UNION DINNER.

Whatever changes of fortune may confront the Royal Army Veterinary Corps, its Old Comrades Association still preserves its personnel in almost full measure and shows no diminution either in the effectiveness of its service or in the support accorded by members to its social occasions. Outstanding among these is the annual Re-Union Dinner, and entire success attended the seventh of the series, which was held at the Queen's Hotel, Leicester Square, W.C., on the evening of Friday, October 28th.

An excellent repast was enjoyed by the large company who, following the honouring of a brief series of toasts, devoted themselves to the real business of the evening in renewing old acquaintanceships and maintaining that mutual interest in the welfare of the members which is already an established tradition in the Association.

Professor F. T. Hobday, in inviting the company to drink the health of the guests, said that on occasions such as that is was always necessary, in order to make their enjoyment complete, that they should invite some esteemed guests. That night they had a considerable number of guests, and they welcome them to their gathering as only Army Associations could welcome them. (Cheers.)

His orders that night were to be very brief and he obeyed them readily, knowing that there were many things they wanted to say to one another on such an occasion of re-union as that. He would only add that the Corps had been in existence ever since 1796, and he thought they would agree that they had cause to be thankful that they did not have to appear in the type of uniform depicted by Sergt. O'Reilly on the menu card. (Laughter.) They would also agree that this year he had again excelled himself in his brilliant effort on their behalf. (Cheers).

The PRESIDENT (Major-General Sir L. J. Blenkinsop), in submitting "The Association," said there was not very much he could tell them about the Association beyond what he told those of them who were present at the Annual General Meeting, held that afternoon, but he was very glad to say that they were not going back at all. (Cheers.) Their membership had slightly increased—they had had thirty-three new members and three new life members during the past year. Their total membership was something like 714, but he regretted to say that out of that number only one-third represented the effective membership of the Association, for only 212 had paid their subscriptions.

Financially, they had cause to be thankful, however, in that they had a slightly better balance than they had last year.

The London branch had decreased in numbers, probably owing to the disbandment of the Territorial Units of the Divisions there, but the membership of the Glasgow and Liverpool branches showed an increase. Liverpool had started a second branch, and Glasgow reported that but for the terrible unemployment experienced locally they would have a very decided increase. They had started a new branch at Manchester, which was doing well, and a branch was in process of formation at Ipswich.

They had had very few applications from their Old Comrades for assistance in finding employment, but those who had applied had been helped as far as possible and everything possible had been done by the committee of their Association to get men placed as well as they could.

Their Secretary, Mr. R. Corr, as they all knew, worked exceedingly hard, and their Treasurer, Captain Warburton, was a remarkable man at getting money together. (Cheers.)

He did not wish to say more, as they all wanted to get on, but he desired to couple that toast with the name of one who was, he believed, the oldest serving member of the corps, except himself, Major Campey. (Cheers.) The toast was drunk with great enthusiasm, and Major CAMPEY, who was received with musical honours, said he was very pleased to be present and also to be remembered amongst them; the institution of such Old Comrades Associations was an innovation since he enlisted and that was not yesterday. (Laughter.) It was a very excellent thing for members of the corps to come together once or more a year on such occasions as that to see old faces, chat about old times and generally enjoy themselves.

An exhilarating programme of musical items was contributed during the evening by Mr. Arthur Gamble's London Dance Band.

LOCAL AUTHORITIES AND CATTLE DISEASE.

At a meeting of the Executive Council of the County Councils Association, held on October 26th, the Agricultural Committee reported that they had considered a letter from the Ministry of Agriculture in reply to a resolution passed at their previous meeting with regard to the cost incurred by county authorities in placing the services of their officers at the disposal of the Ministry for the tracing and examination of foot-and-mouth disease contacts. The Ministry stated that the Diseases of Animals Act, 1894, provided that the local authorities should defray the expenses of the execution and enforcement of the Act and Orders of the Ministry, and added:—

"Whilst it is in the general interest of the country as a whole that suspected animals should be followed up with a view to action to prevent the spread of infection to other animals, such action is particularly in the interest of the county or district to or from which such animals have been moved. The tracing and examination of animals which there is reason to believe have been exposed in any manner to infection appears to the Ministry, therefore, to be essentially a matter for the local authorities. The Ministry is advised that it has full power under section 36 of the Act of 1894 to call upon the officers of local authorities to trace and report upon the health of contact animals located in their districts, and that the expense incurred by local authorities in so doing is expenditure which falls to be defrayed by the local authorities as part of their general expenses of administration, the Ministry having no power to pay such expenses under the existing law."

On the recommendation of the Public Health and Housing Committee, it was agreed to make arrangements for a deputation from the Agricultural and Public Health Committees to wait on the Ministry of Agriculture on the subject of the establishment of a legal standard for the sale of milk.

Imperial Agricultural Research Conference Proposals.

The Imperial Agricultural Research Conference reassembled in full session in Westminster Hall on October 26th, and was occupied in considering reports by the Administrative Commission relating to administrative problems. Lord Bledisloe, Parliamentary Secretary to the Ministry of Agriculture, presided.

With reference to the Colonial Office agricultural scholarship scheme, it was stated that the existing scheme, strengthened and suitably modified, might be expected to meet requirements for the present, provided that it be extended to cover veterinary science. The stimulation of further interest in and recognition of the importance of science in agricultural development, the report continued, should again be urged upon all the Governments of the Empire. Referring to the interchange of workers, it stated that throughout the Empire existing facilities are inadequate, mainly because of financial difficulties. The help of the appropriate authorities should be sought for this powerful aid to Imperial agriculture.

A report relating to the proposed chain of tropical and sub-tropical research stations stated that the establishment of such stations should be governed primarily by the ascertained needs of Empire research in particular fields of agriculture, rather than by considerations of geographical distribution.

The establishment of clearing houses for the interchange of information of value to research workers in agricultural science throughout the Empire was the subject of another report. It was stated that the Committee had been impressed by the representations made to them in favour of clearing stations of a comprehensive character for the subjects of soil science, animal nutrition, and animal health, and were of opinion that the number of workers and the output of literature throughout the Empire on these subjects justified the establishment of clearing stations on the scale of bureaux. They recommended the establishment of a Bureau of Soil Science attached to the Rothamsted Experimental Station, a Bureau of Animal Nutrition attached to the Rowett Research Institute, Aberdeen, and a Bureau of Animal Health in London.

It was also recommended that clearing stations of information should be established on a smaller scale than in the case of the suggested bureaux, to be termed correspondence centres. The subjects for the stations and the places where it was recommended they should be established were as follows:—Animal Genetics, Animal Breeding Research Department, Edinburgh University; Agricultural Parasitology, Institute of Agricultural Parasitology and London School of Hygiene and Tropical Medicine; Plant Genetics, Plant Breeding Institute, Cambridge University (to deal with all crops of temperate and tropical regions except herbage plants), and Welsh Plant Breeding Station, Aberystwyth (to deal with herbage plants); Fruit Production, East Malling Research Station, East Malling, Kent.

The Committee recognised that the fulfilment of the programme would be considered by the Finance departments of the contributing Governments. With the information before them they considered that £13,000 for bureaux and £7,000 for correspondence centres in all per annum, guaranteed in the first instance for five years, would be sufficient to meet adequately the immediate needs of the interchange of information between research workers throughout the Empire.

Sir Daniel Hall asked whether it was necessary to spend the sum mentioned for bureaux and correspondence centres. They wanted every penny they could get for research, and they must not substitute attention to machinery for the real thing.

Mr. G. A. Julius (Australia) said he did not think anything of more importance could arise than an effective scheme of interchange of information.

The reports were approved.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Nov. 14th—Meeting of the Editorial Committee, N.V.M.A., 4-30 p.m.

Nov. 23rd—Meeting of the Western Counties Division at Plymouth.

Meeting of the Section of Comparative Medicine of the Royal Society of Medicine, 1 Wimpole Street, W.

Nov. 25th—Meeting of the Royal Counties Division, 10 Red Lion Square.

Foot-and-mouth Disease at Windsor.

The existence of foot-and-mouth disease was confirmed on Tuesday in a slaughterhouse at Windsor, Berks, in ten out of forty-seven live pigs on the premises.

The usual restrictions have been applied to an area of approximately fifteen miles' radius round the infected premises.

Diseases of Animals Order, 1927.

It is announced in the *London Gazette* that Section 1 of the Diseases of Animals Act, 1927, will come into operation on April 1st, 1928, and may be cited as the Diseases of Animals Order, 1927.

R.C.V.S. Obituary.

Wallis, Frederick Moreton, 84 Elm Road, Leigh-on-Sea. Graduated London, 5th January, 1882. Died 5th November, 1927.

Quinnell, Wilmot Clifton, M.R.C.V.S., London, M.R.S.I. etc. (late Major R.A.V.C.), at his residence, 62 Clyde Quay, after a short illness, on the 22nd September.—(New Zealand *Evening News*).

Meeke.—On October 31st, at "Silver Rest," St. John's Road, Epping, Kathleen Dudfield Meeke, beloved wife of Captain A. V. Meeke, M.R.C.V.S., aged 46 years.

Personal.

Will:—Mr. Tom Fenton Dawson, M.R.C.V.S., of Horsefair House, Pontefract for many years veterinary surgeon to the Badsworth Hunt Committee and the Pontefract Race Company, and a well-known judge of horses, who died on September 25th last, left estate of the gross value of £3,667 4s., with net personalty £722 4s.

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Appointments:—Mr. Harold Burrow, M.R.C.V.S., D.V.S.M., of Lancaster, has been appointed as Assistant Veterinary Inspector to the Veterinary Department of the Corporation of Birmingham.

The following appointment made to the staff of the London School of Hygiene and Tropical Medicine took effect on October 1st: Mr. Reginald Lovell, M.R.C.V.S., to be research assist in comparative pathology.

The following appointments have been made by the Secretary of State for the Colonies during the month of October, 1927:—

Name.	*Appointment.*	*Colony.*
Lt. W. B. C. Danks,	Veterinary Officer,	Kenya.
Mr. W. Fotheringham,	Veterinary Officer,	Kenya.
Mr. R. L. Cornell, B.Sc., M.R.C.V.S.,	Research Officer, Veterinary Department,	Tanganyika Territory.

Edinburgh B.Sc. (Vet. Sci.) Examinations:—Students of the Royal (Dick) Veterinary College, Edinburgh, have passed the following examinations leading to the Degree of B.Sc. (Veterinary Science) conferred by the University of Edinburgh:—

Sanitary Science and Veterinary Hygiene: Christopher Harvey.

Anatomy: James Anderson, James S. Blair and Duncan A. MacPherson.

Physiology: James Anderson.

Royal Veterinary College.

List of Medals, Class Prizes, etc., Awarded at the opening of Session 1927-1928.

Coleman Prizes: Silver Medal, Mr. W. J. Cooper.

Centenary Prizes: *Class A*, Mr. J. J. Davies; *Class B*, Mr. R. Machin; *Class C*, Mr. J. S. Stevenson; *Class D*, Mr. R. Roberts.

Royal Agricultural Society's Medals: Silver Medal, Mr. R. Roberts; Bronze Medal, Mr. J. B. White.

Clinical Prizes: *Class A*, 1st prize, Mr. J. C. Rix; 2nd prize, Mr. J. J. Davies; 3rd prize, Mr. N. P. Male; *Class B*, 1st prize, Mr. J. D. Peele; 2nd prize, Mr. J. A. Nicholson; 3rd prize, Mr. G. S. R. Chalmers; *Class C*, 1st prize, Mr. A. J. Wright; 2nd prize, Mr. J. S. Steward; *Class D*, 1st prize, Mr. E. Messervy.

Class Prizes: *Class A*, Chemistry and Toxicology: 1st prize, Mr. S. H. Adams; 2nd prize, Mr. J. J. Davies; Biology, 1st prize, Mr. J. J. Davies; 2nd prize, Mr. W. C. C. Taylor; Minor Anatomy, 1st prize, Mr. S. H. Adams; 2nd prize, Mr. J. J. Davies.

Class B: Anatomy, 1st prize, Mr. J. B. Polding; 2nd prize, Mr. R. Machin; Physiology, 1st prize, Mr. R. Machin; 2nd prize, Mr. E. O. Longley; Histology, 1st prize, Mr. E. O. Longley; 2nd prize, Mr. R. Machin.

Class C: Pathology, 1st prize, Mr. J. S. Stevenson; 2nd prize, Mr. J. T. R. Evans; Materia Medica, 1st prize, Mr. J. S. Stevenson; 2nd prize, Mr. J. Bhattacharjee; Hygiene, 1st prize, Mr. J. Bhattacharjee; 2nd prize, Mr. J. S. Stevenson.

Class D: Veterinary Medicine, 1st prize, Mr. R. Roberts; 2nd prize, Mr. C. E. Woodrow; Surgery, 1st prize, Mr. R. Roberts; 2nd prize, Mr. C. E. Woodrow.

Livestock in Scotland.

The report of the Board of Agriculture for Scotland on the acreage and production of crops and the number of livestock in Scotland for the year 1926 has now been published (Agricultural Statistics, 1926; Vol. XV., Part I., Stationery Office, 4s. net). The report states that horses of all classes were fewer than in 1925 by 6,738, or 3.6 per cent., the total number in 1926 being 178,695, as compared with 185,433 in the preceding year. The number returned as used for agricultural purposes, including mares kept for breeding, was 132,050, which shows a decrease of 4,602, or 3.4 per cent. The total number of cattle was 1,197,828, as compared with 1,204,791 in 1925, a decrease of 6,963, or 0.6 per cent. Dairy cows were more numerous by 7,095, or 1.6 per cent., the total now standing at 457,446, while the numbers of other cattle, amounting to 740,382, decreased by 14,058, or 1.9 per cent. The total of all classes of sheep amounted to 7,203,134, as compared with 7,118,820 in 1925, an increase of 84,314, or 1.2 per cent. The total is the greatest since 1909, and is above the decennial average by 431,977, or 6.4 per cent.

The number of pigs returned was 145,419, as compared with 154,220 in 1925, a decrease of 8,801, or 5.7 per cent. A remarkable advance is shown in the poultry figures, fowls having increased since 1922 by 17.3 per cent., ducks by 20.6 per cent., geese by 29.9 per cent., and turkeys by 35.1 per cent.

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

"Where do we Stand?"

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—I should like to support the protest made by Sir John Moore in your issue of the 5th inst. against the neglect the profession experiences at the hands of those in authority.

From the earliest inception of a Civil Veterinary Service in this country we have been dragooned, in the first place by medical men of the Privy Council of that day, later by laymen of the Board of Agriculture. Never have we been permitted to stand alone. This is due to old-standing prejudice; the ability was there, but it was suppressed, and all advice had to filter to the public through a lay official of the Board. The late Professor Sir George Brown, who for years represented the best interests of the nation and the profession in the civil veterinary department of this country, was unapproached in intellect by any Minister or official with whom he had to deal during his long period of office. It is true he lacked the enthusiastic manner, but his cold logic, his precise and incisive utterances, clothed in supremely graceful English, marked him as the outstanding figure of his age at the Board of Agriculture. It did not, however, carry his department one inch further towards emancipation.

We must look matters squarely in the face. When we are not represented on an enquiry where we have a right to be present, it is not due to forgetfulness on the part of the authorities as some would have us believe, but to a deliberate and ancient policy to belittle the men engaged in the doctoring of animals. This policy is hereditary; it cannot be lived down because we are what we are, so it must be fought.

I agree with Sir John Moore that we have tolerated this state of affairs far too long. Patient suffering does not bring relief. We must assert the right not only to conduct our own professional affairs, but also to represent veterinary interests whenever they arise. A year or two before the Great War a committee constituted by the Board of Agriculture sat to deal with the question of higher veterinary education; not a single veterinarian was included on the Committee though the Remount Department of the War Office was represented. Would it be possible for a public committee to sit in this country to consider medical interests without the medical profession being represented? At the present time a committee is sitting to consider the organisation and efficiency of the Colonial Medical Service; its titular head is a layman, but the members of the committee are all medical. A committee dealing with precisely the same question in the Colonial Veterinary Service is also sitting; it has seven members of whom only three are members of the profession, and these may consequently always be outvoted.

These differences exist as a result of a contemptuous indifference to our profession, and I regret to observe that our so-called "sister" far too frequently throws her weight into the scale opposite to her poor relation. Her complaint is that we are not a scientific body nor in sympathy with science. I should be the last to defend our past apathy in this matter, but recent years have seen great changes. Until University Degrees in Science were open to us, it was useless to expect men to take up the study of subjects in which they could earn no status and could obtain no appointment. Many years ago I asked the late Professor Sir Michael Foster to take up at Cambridge the question of degrees in Science for the veterinary profession. He was a man entirely free from the exclusive attitude generally adopted by his profession, and was in sympathy with the proposal, though he doubted whether the number of men forthcoming would meet the expenses of the examination. Behind this reply was his knowledge of the fierce opposition such a proposal would have aroused. Yet time has justified the request put forward, and as a profession we cannot be too grateful to the many men of our body who have taken university degrees and removed from us this reproach.

I am quite clear that our Civil Veterinary Service should stand on its own feet as does the Ministry of Health. I would rather see it as a separate department of that Ministry than in its present position, provided the danger of absorption could be guarded against.

Sir John Moore touches on the question of there being no veterinary representatives on the Royal Commission on Agriculture in India, and he points out the danger of such neglect. He also knows that the Civil Veterinary Service of India is without a veterinary head, an unthinkable position. Could such a lamentable state of affairs exist in any other public service? A selected officer of the Civil Veterinary Department should be created Director-General of the whole of India, and so ensure an effective organisation of the department to deal with the control of disease in that vast country.

The burden of my remarks is that we have suffered insults to us as a profession far too long; we have been thrust aside, humiliated, and time after time reminded that we are bottom dog and should so remain.

The profession must move in the matter with a full determination to end it in our favour, and with this object to enlist in the struggle all the Parliamentary influence it can command. There is a possible short-circuit, *i.e.*, a deputation to the Prime Minister by the R.C.V.S. and the N.V.M.A., but if one can judge by observation, such deputations are received with great sympathy, nothing is promised and nothing is done. As my instincts are militant, I prefer the floor of the House with a good fighting man from each political party to ventilate our grievances, and enforce our claims to wider and better recognition.—Yours faithfully, F. SMITH.

7th November, 1927.

The Royal Veterinary College Appointments.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—With reference to the recent appointments made to the various posts at the Royal Veterinary College, which have caused such adverse comment amongst so many members of the profession, I should like to ask if the Executive Committee of the Board of Governors of the R.V.C. ever consulted any of the leading members of the profession, *e.g.*, members on the Council of the Royal College of Veterinary Surgeons or members on the Council of the National Veterinary Medical Association, before making the appointments. If they did not do so, members of the profession would like to know what method was adopted to ensure that the best men available were chosen for the various posts. Yours faithfully, GRAHAM REES-MOGG.

42 Princes Gate,
S.W. 7.
Nov. 4th, 1927.

The Editor acknowledges the receipt of the following:—

Communications from Messrs. W. T. D. Broad, E. B. D. Hall and A. New, Lt.-Col. J. W. Rainey, and Capt. H. A. Idenden.

Report of a meeting of the V.M.A. of Kenya Colony and Protectorate.

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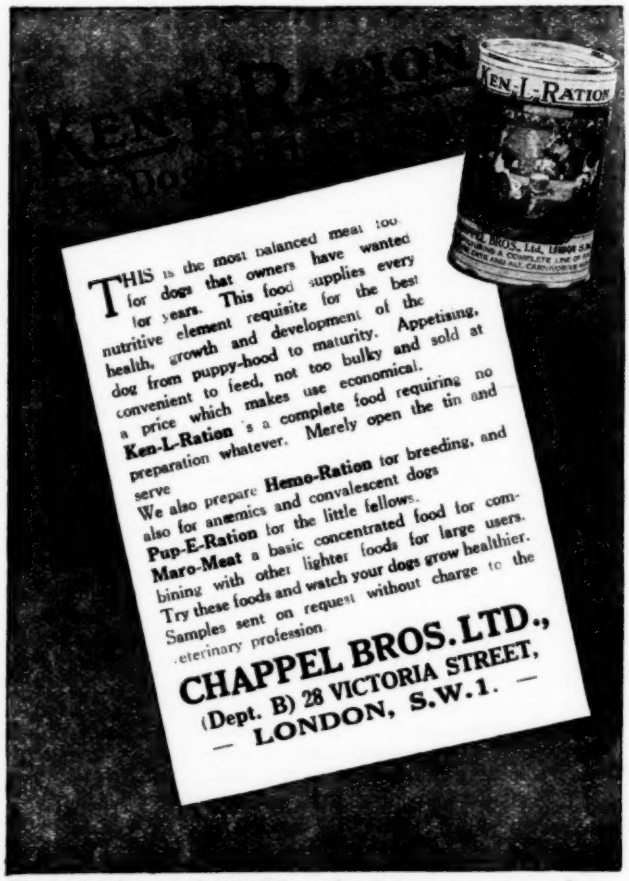
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